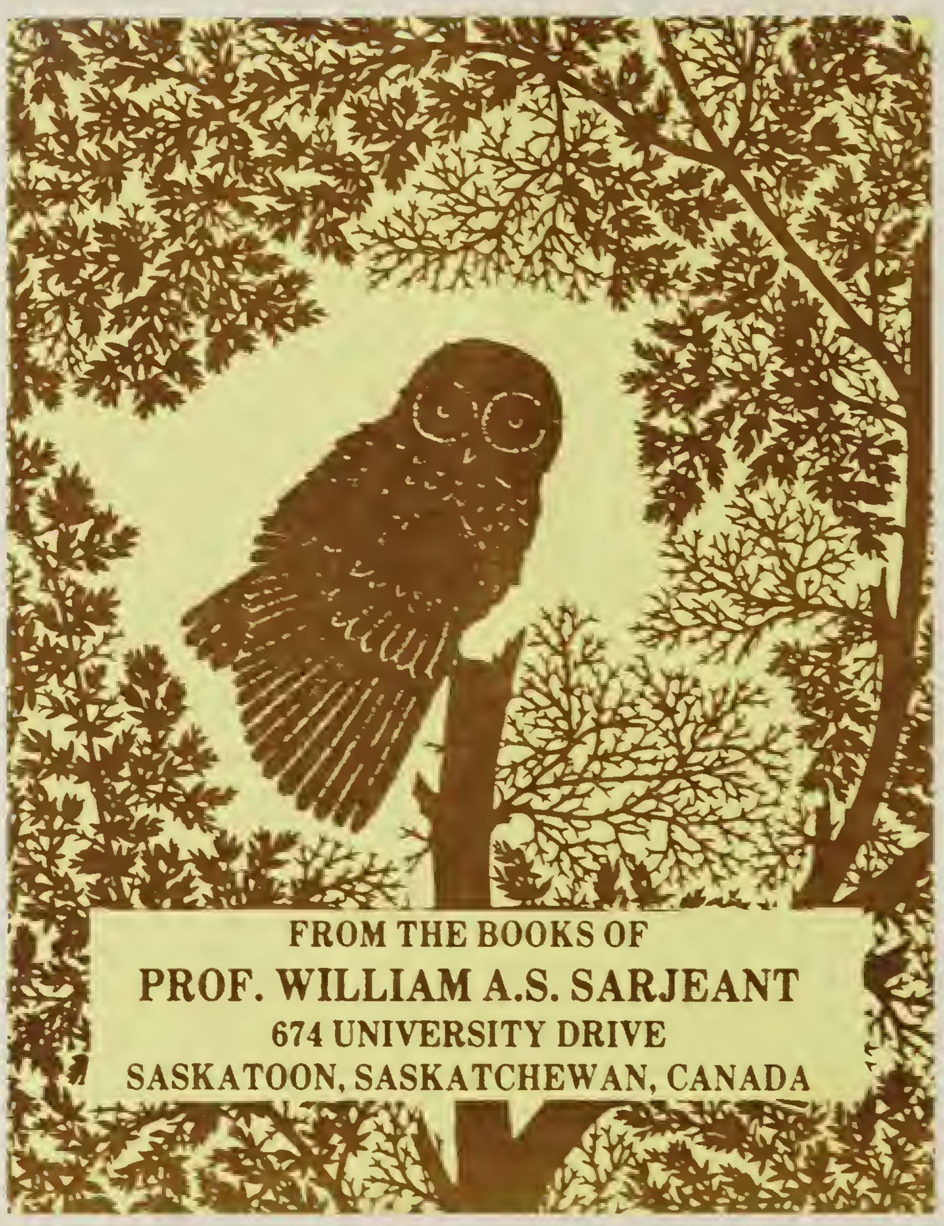
University of Alberta Library
0 1620 1670 0872

A32501



FROM THE BOOKS OF
PROF. WILLIAM A.S. SARJEANT
674 UNIVERSITY DRIVE
SASKATOON, SASKATCHEWAN, CANADA

William A. S. Sargent

Digitized by the Internet Archive
in 2019 with funding from
University of Alberta Libraries

https://archive.org/details/bluejay451sask

BLUE JAY

March 1987

The Blue Jay, founded in 1942 by Isabel M. Priestly, is a journal of natural history and conservation for Saskatchewan and adjacent regions. It is published quarterly by the Saskatchewan Natural History Society, Box 414, Raymore, Saskatchewan. S0A 3J0. CN ISSN 0006-5099.

Editor: Sheila Lamont
Associate Editors: Margaret Belcher, Anthony Capusten, J. Bernard Gollop, Wayne C. Harris, Ronald Hooper, George F. Ledingham, Bruce A. McCorquodale, Robert W. Nero, Carol A. Scott.
Editorial Assistant: Carman Dodge

EDITORIAL INFORMATION: All items for publication should be addressed to the editor at **Box 414, Raymore, Saskatchewan. S0A 3J0** Deadlines for each issue are 2 months prior to issue, i.e. 1 January, 1 April, 1 July and 1 October. Typewritten manuscripts should be double spaced and submitted in duplicate. Manuscripts may be submitted on IBM compatible 5 1/4 inch diskettes which will be returned to authors when copies have been made. For further guidelines contact the editor.

Common names are used for species where possible. Bird names follow the 1983 revision of the American Ornithologists' Union Check-list. Mammals are from Banfield's The Mammals of Canada (1974). Since insect and plant names are not standardised, scientific names are included, with authorities where deemed necessary.

Photographs submitted should be on glossy paper. Negatives or slides sent will be returned after prints have been made for SNHS files. Prints will be returned on request. Deadlines for photographic materials are 4 weeks prior to issue, i.e. 1 February, 1 May, 1 August and 1 November.

Any material printed for the first time in the Blue Jay may be reproduced without permission. Credit lines will be appreciated. Use of photographs requires written permission from the photographer.

ADVERTISING: Advertising rates may be obtained from SNHS, Box 414, Raymore, Saskatchewan. S0A 3J0

REPRINTS: Requests for quantities of reprints of any article in the Blue Jay should be made to the editor with the submission of an article. Contributors wishing a few extra copies of the current issue may get them at cost. Requests for these should be made to the editor when material is submitted for publication.

SUBSCRIPTION-MEMBERSHIPS: Send all renewals, new memberships, and correspondence concerning changes of address to the Treasurer, SNHS, Box 414, Raymore, Saskatchewan. S0A 3J0

The classes of membership in the Society are as follows: Regular $12.; Sustaining $25.; Patron $50.; Junior $8. and Senior Citizen $10. Sustaining and Patron memberships include the regular fee plus a donation for which a receipt is available, upon request, for income tax purposes. Bulk orders (minimum of 5 to one address) are available to club members and educational institutions at the rate of $12. for the first subscription and $10. for each additional one. Life memberships are $500. Outside Canada fees are $15.

Cover: Willow Ptarmigan. Wayne Lynch

This organization receives support from Saskatchewan lotteries.

BLUE JAY

Vol. 45 No. 1 March 1987 1-62

Insects

AMERICAN CARRION BEETLE RARE AT THE PAS, MANITOBA. *Walter Krivda* 3

Birds

45th ANNUAL CHRISTMAS BIRD COUNT — 1986. Compiled by *Mary I. Houston* 4

"NEW" SPECIES FOR PRAIRIE BIRDERS. *Mary D. Gilliland* 22

BALD EAGLE CONCENTRATION AT HEART LAKE, MANITOBA. *Peter Taylor* 26

ADDITIONAL RECORDS OF BALD EAGLE PREDATION OF WATERFOWL. *Robert W. Nero* 28

BROAD-WINGED HAWK KETTLES IN BRANDON. *Jean Horton* 30

EARLY OBSERVATIONS OF BARRED OWL IN ALBERTA. *Edgar T. Jones* . . 31

ON THE "CONCEALING POSE" OF THE NORTHERN SAW-WHET OWL. *Spencer G. Sealy* and *Keith A. Hobson* 33

BIRDING AT DORE LAKE, SASKATCHEWAN. *Ron Jensen* 37

SHARP-TAILED GROUSE DANCING IN JANUARY. *Richard Pickering* and *Ben Cruise* 39

BLUE JAY TAKES DEAD SHREW. *James Shilliday* 42

MANITOBA WHOOPERS — 40 YEARS AGO. *Harold E. Watson* 43

Mammals

SASKATCHEWAN CHRISTMAS MAMMAL COUNT — 1986. Compiled by *Wayne C. Harris* 44

AN ACTIVE PRAIRIE RATTLESNAKE DEN TAKEN OVER BY FOXES. *Malcolm Stark* 53

COYOTES EATING HAWTHORN FRUIT. *Lawson G. Sugden* 54

Nature Library

BIRDS OF NEW GUINEA. Reviewed by *Wayne Lynch* 55

THE MIGRATIONS OF HAWKS. Reviewed by *Peter Taylor* 56

UNIVERSITY LIBRARY
UNIVERSITY OF ALBERTA

BEHAVIOUR OF FLEDGLING PEREGRINES. Reviewed by *Bob Kohlmeier* . . 57

WILDLIFE 2000: MODELING HABITAT RELATIONSHIPS OF TERRESTRIAL VERTEBRATES. Reviewed by *Dale Hjertaas* 59

Letters

THE ELUSIVE CHICKLET. *Donald F. Hooper* 61

NEST BOX TRAIL AT GRAYSON, SASKATCHEWAN. *John M. Hicke* 61

Notices

CALL FOR ASSISTANCE: PRAIRIE-NORTHWEST TERRITORIES SHOREBIRD SURVEY PROGRAM 20

RAPTOR RESEARCH FOUNDATION ANNUAL MEETING 41

SNHS SUMMER MEET — 16TH ANNUAL CNF CONFERENCE: REVISED PROGRAM 62

AMERICAN CARRION BEETLE RARE AT THE PAS, MANITOBA

WALTER KRIVDA, Box 864, The Pas, Manitoba. R9A 1K8

Recently, in sorting and arranging my holdings in burying beetles from Manitoba, some specimens of the carrion beetle were located. Though frequent in the south, this is an undoubted rarity in distribution in these parts.

In some 38 years of collecting insects generally in Manitoba, only five specimens have been taken in The Pas area. These have been associated with gravel beaches and dead fish. Only one specimen was taken and seen each time in the above instances. It ranks as one of our rarest species.

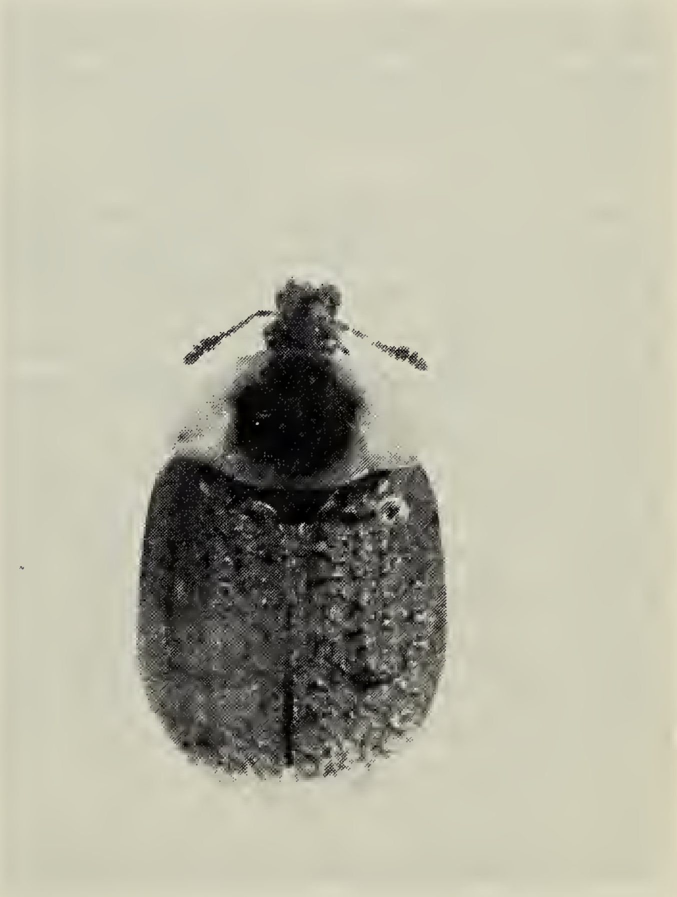
Last summer, for the first time, *Necrophila americana* was found in numbers at Rocky Lake at Wanless, Manitoba, some 40 miles north of The Pas. These were collected by Michael and Richard LeBlanc of The Pas. Two specimens are in the writer's collection. Here also, the beetles were associated with dead fish or fish offal resulting from the fishermen cleaning their fish. They came in numbers to this food source. They would disappear rapidly into old leaf cover on the shoreline when distured. This may be their natural habitat. This may also explain why they are not more far ranging as are the many other kinds of carrion and burying beetles.

Once the exact habitat is known, some insects prove to be not as rare as previously believed. This can be used as a rule of thumb for a wide range of life forms. The problem is that the precise habitats of many living things are not exactly known.

Ron Hooper found it a surprise to see *Necrophila americana* taken in The Pas area. There are evidently no Saskatchewan records for this fine beetle. In due course, it will likely be soon discovered in a Saskatchewan location on a gravel beach and associated with dead fish.

Any future mapping of the range of this species by computer should take into consideration its evidently narrowly restricted habitat. Travellers in the north should watch for it. It may range farther north in Canada.

EDITOR'S NOTE — We would appreciate help in locating this species in Saskatchewan. It is 16 mm long and is brown with a yellow-edged thorax. Report any findings of it (and send specimens) to Ronald Hooper, Saskatchewan Museum of Natural History, Wascana Park, Regina, Saskatchewan. S4P 3V7



American Carrion Beetle *R. Hooper*

UNIVERSITY LIBRARY
UNIVERSITY OF ALBERTA

45th ANNUAL CHRISTMAS BIRD COUNT — 1986

Compiled by MARY I. HOUSTON, 863 University Drive, Saskatoon, Saskatchewan. S7N OJ8

Excellent coverage was provided this year by counts from 83 localities, eight more than the previous all-time high of 75 localities in 1985. Perhaps the universal good weather over count period (December 18 - January 4) was partly responsible for this enthusiastic turnout. Larger crews than usual assembled for the counts at Abernethy-Katepwa, Govenlock, Grand Centre-Pierceland and Luseland.

Seventy-four species were recorded on count day and another three during count period, short of the record 78 species on count day and 6 additionals during count period in 1981.

Four localities recorded 30 or more species on count day, topped by Saskatoon where 40 species were identified by 50 observers. Next came Regina (32 species, 35 observers), Fort Walsh (31 species, 14 observers) and Squaw Rapids (30 species, with only 7 observers).

Two species were added to the count day list for the first time, raising this total to 143 species. Mountain Bluebirds seen at three localities (Fort Qu'Appelle, Saskatoon and Wauchope) had previously been recorded during count period at Fort Qu'Appelle in 1973 and Eastend (8 individuals) in 1979. Varied Thrushes were studied carefully on count day at Abernethy-Katepwa and Saskatoon, having been observed during count period at Pierce Lake in 1978 and Fort Qu'Appelle in 1984. The all-time count period total remains at 148 species.

Record-setting numbers of Golden Eagles, 12 at each locality, were sighted at Fort Walsh and Govenlock, perhaps a new Canadian high. (In 1985, five Golden Eagles at Medicine Hat topped all other Canadian localities). Other new Saskatchewan highs were 14 Wild Turkeys and 83 Rusty Blackbirds at Fort Walsh and 154 Common Mergansers at Gardiner Dam.

Black-billed Magpies were reported from 77 of the 83 localities, House Sparrows from 72 and Black-capped Chickadees from 71. Bohemian Waxwings (from 37 localities) and Pine Grosbeaks (from only 29) were less common than usual, with a poor showing of fringillids generally.

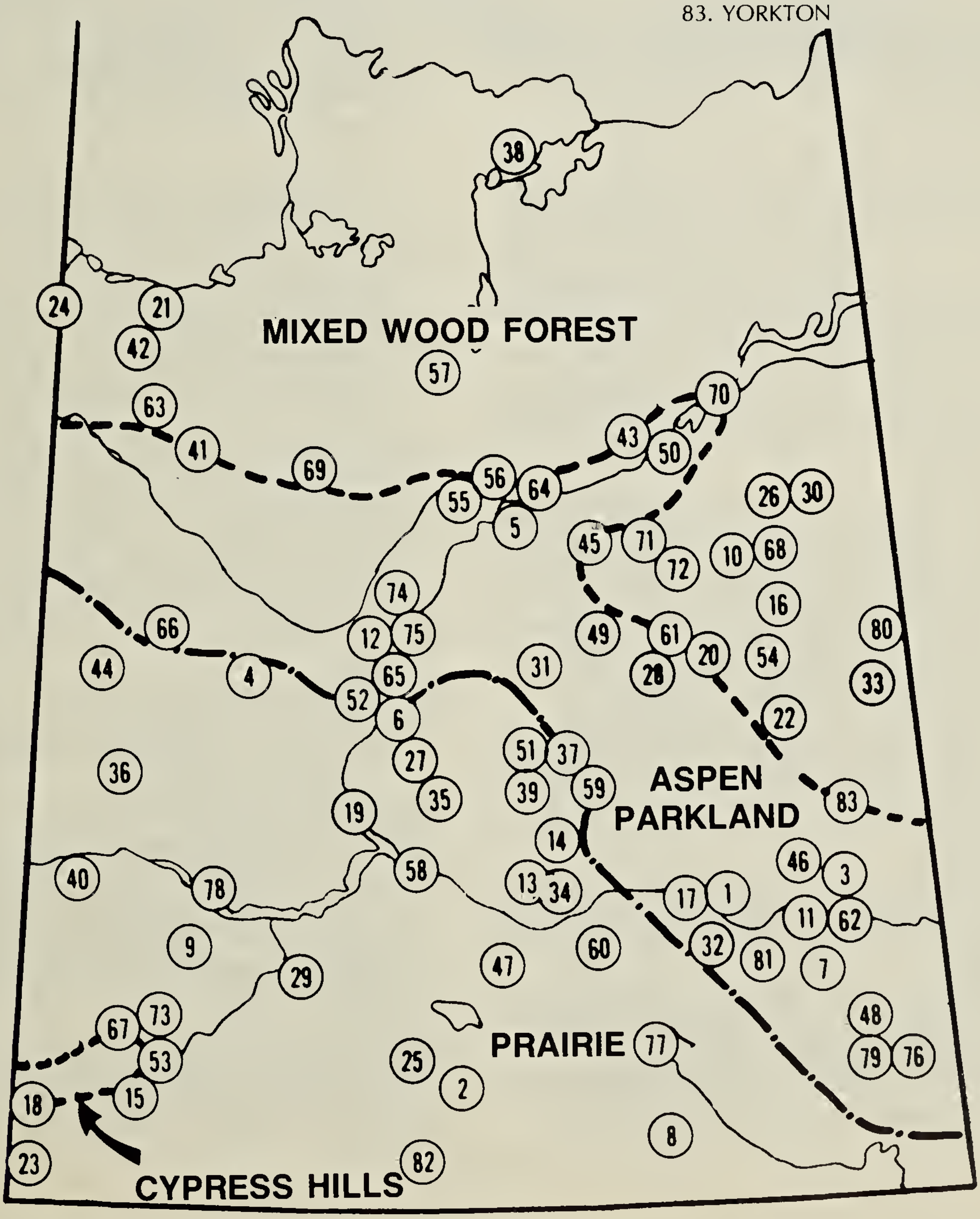
Following is a list of participants from the 83 localities and a map. Four tables then summarize the results. Table 1 provides the coverage and weather. Table 2 lists the species reported from more than three localities on count day, indicating additional species during count period by means of a + sign. Table 3 gives numbers and locations for species seen in three or fewer locations. Table 4 presents numbers and locations of those birds unidentified as to species.

Count Areas and Participants
(Names of compilers are in italics.)

1. ABERNETHY-KATEPWA. Ron Bittner, R.F. Carter, Bernie de Vries, Dorothy Fleming, Ron Hooper, Alice Laing, *Joy McKen*, Norman McKen, Lorne & Doreen Rowell, Wanda & Hugh Stueck, Dorothy Williams.
2. ASSINIBOIA. Carol Bearss, Gordon Brunt, Jack Burgeson, *Cecil Hayward*, Dave Landa, Delmar Pettem, Wilf

LOCATIONS OF COUNTS

1. ABERNETHY-KATEPWA
2. ASSINIBOIA
3. BANGOR
4. BIGGAR
5. BIRCH HILLS
6. BRIGHTWATER RES.(Dundurn)
7. BROADVIEW
8. BROMHEAD
9. CABRI
10. CARRAGANA
11. CROOKED LAKE (s Melville)
12. DALMENY
13. DILKE
14. DUVAL
15. EASTEND
16. ENDEAVOUR
17. FORT QU'APPELLE
18. FORT WALSH
19. GARDINER DAM (s Outlook)
20. GLENGARIFF S.D.(s Nut Mt.)
21. GOODSOIL
22. GOOD SPIRIT L. PROV. PK.
23. GOVENLOCK
24. GRAND CENTRE - PIERCELAND
25. GRAVELBOURG
26. GREENBUSH
27. HANLEY
28. HENDON
29. HERBERT
30. HUDSON BAY
31. HUMBOLDT
32. INDIAN HEAD
33. KAMSACK
34. KEDLESTON (East of Dilke)
35. KENASTON
36. KINDERSLEY
37. KUTAWAGAN LAKE (n Semans)
38. LA RONGE
39. LAST MOUNTAIN L SANCTUARY
40. LEADER
41. LIVELONG
42. LOON LAKE
43. LOVE - TORCH RIVER
44. LUSELAND
45. MELFORT
46. MELVILLE
47. MOOSE JAW
48. MOOSE MOUNTAIN PROV. PK.
49. NAICAM
50. NIPAWIN
51. NOKOMIS
52. PIKE LAKE
53. PINE CREE REGIONAL PARK
54. PREECEVILLE
55. PRINCE ALBERT #1
56. P. A. #2 - LITTLE RED R. PK.
57. PRINCE ALBERT NATIONAL PARK
58. QU'APPELLE DAM (Elbow)
59. RAYMORE
60. REGINA
61. ROSCOMMON (Kelvington)
62. ROUND LAKE (Stockholm)
63. ST. WALBURG
64. SASKATCHEWAN RIVER FORKS
65. SASKATOON
66. SCOTT
67. SKULL CREEK (s Sidewood)
68. SOMME
69. SPIRITWOOD
70. SQUAW RAPIDS (Sask. River)
71. TISDALE
72. TISDALE S.E.
73. TOMPKINS
74. WALDHEIM
75. WARMAN
76. WAUCHOPE
77. WEYBURN
78. WHITE BEAR
79. WHITE BEAR LAKE (n Carlyle)
80. WHITE BEECH (n Arran)
81. WOLSELEY SOUTH
82. WOOD MOUNTAIN
83. YORKTON



Prentice, Ken Schuweiler.

3. BANGOR. *Jean Hilton*, Sheila Popowich.
4. BIGGAR. Sandra Pederson, *Guy Wapple*, Marguerite & Robert Wapple.
5. BIRCH HILLS. Moe Mareschal, Terry Toews, *Don Weidl.*
6. BRIGHTWATER RESERVOIR (Near Dundurn). *Alan R. Smith*, J.R. Smith.
7. BROADVIEW. *Dave J. Chaskavich.*
8. BROMHEAD. *Carol Bjorklund.*
9. CABRI. *Carman Dodge*, Genevieve Greif.
10. CARRAGANA. *Stan Back.*
11. CROOKED LAKE (Qu'Appelle valley south of Melville). Doug Boivin, *Don Weidl*, Tony Weidl.
12. DALMENY. Brian & Lorne Sperling, *Loyd Sperling.*
13. DILKE. *Margaret Belcher*, Ken McArton, B. Wilson.
14. DUVAL. Enid Cumming, Wayne Harris, Iain Richardson, *Lloyd S. Saul.*
15. EASTEND. *Henri Lebastard.*
16. ENDEAVOUR. *Norman Harris.*
17. FORT QU'APPELLE. Dick Barton, Del & Russ Cairns, Errol Cochrane, Ethel Cockwill, Bernie deVries, Doug Evans, *Ronald Hooper*, Madeline Lacree, Alice Laing, John, Lois & Vic Lamontagne, Jack Lowe, Don & Fern McDougall, Paul Paquin, Enola Rak, Doreen & Lorne Rowell, Gilbert Spanier.
18. FORT WALSH. Carol Bjorklund, Bob Black, Bob & Sandy Ewart, Wayne Harris, Bob Kreba, Sheila Lamont, Bob & Sharon Luterbach, Ron Myers, Wilkes Parsonage, Wayne Renaud, *Guy Wapple*, Robert Wapple.
19. GARDINER DAM (South of Outlook). Wayne Harris, Sheila Lamont, Wayne Renaud, *Guy Wapple*, Robert Wapple.
20. GLENGARIFF S.D.(South of Nut Mountain). *Dianne Sloan*, Graham Sloan.
21. GOODSOIL. *Catherine Morton*, David & Richard Morton.
22. GOOD SPIRIT LAKE PROVINCIAL PARK. *Bill Anaka*, Joyce Anaka.
23. GOVENLOCK. Carol Bjorklund, Bob & Sandra Ewart, *Wayne Harris*, Bob Kreba, Sheila Lamont, Bob Meyer, Wayne Renaud, Guy & Robert Wapple.
24. GRAND CENTRE - PIERCELAND. Kevin Arnold, Darrell & Shauna Axani, *Frank Roy*, Margaret, Robin & Ryan Roy.
25. GRAVELBOURG. *Alan R. Smith.*
26. GREENBUSH. *Donald Hooper*, Ronald Hooper.
27. HANLEY. *Carman Dodge*, Ken Dodge, Genevieve Greif.
28. HENDON. *Kelly Kozij.*
29. HERBERT. Terry Toews, *Don Weidl.*
30. HUDSON BAY. A. Bennet, Joyce Hayes, *Donald Hooper.*
31. HUMBOLDT. *Ed Brockmeyer*, Mike Volk.
32. INDIAN HEAD. Betty & Cec Ashmore, Isobel & Peter Barrett, Carol & Margo Beaulieu, *Vic Beaulieu*, Hazel Buglass, Doug, Katie & Sarah Derksen, Don Hayward, Gordon Howe, Helen King, Rose & Roy McLaughlin, Dora Nichols, Bruce, Claire, Erin & Richard Neill, Adam, Heidi, Joan & Lorne Scott, Joyce, Linda & Mary Skinner, Charlie and Ruby Thompson, Ann & Gordon Willerth, Barbie & Jackie Willoughby.
33. KAMSACK. *Isabel Ritchie.*
34. KEDLESTON (East of Dilke). Clark & Doug Laing, *Vera Laing.*
35. KENASTON. Bill, Doug & Sam Beckie, *Lawrence Beckie.*
36. KINDERSLEY. *Gerry Essar*, Michael Essar.
37. KUTAWAGAN LAKE (North of Semans). Anemone Harris, *Wayne Harris*, Lloyd Saul.
38. LA RONGE. *Jim Paul.*
39. LAST MOUNTAIN LAKE SANCTUARY. Lorne Bjorklund, Enid Cumming, Bob Ewart, *Wayne Harris*, Sheila Lamont, Iain Richardson, Lloyd Saul.
40. LEADER. *Daisy D. Meyers.*
41. LIVELONG. *Sarah Pavka*, Steve Pavka.
42. LOON LAKE. Alfred Davis, *Penny*

Black-billed Magpie *G.L. Holroyd*

Davis, Frank & Paul Scott.

43. LOVE - TORCH RIVER. *Bert Dalziel*, Joan, Duke & Nora Dalziel, Bruce Donovan, Pearl French, Bill & Lynn Matthews, Dave Sundberg, Allen & Joyce Tatlow, Charles Vivian, Irene & Stan Westman.
44. LUSELAND. Sandra and Kelly Cotter, Bob, Estelle, Kerry & Val Finley, *Kim Finley*, Bill Frey, Bev, Brent, Dustin & Levi Honeker, Travis Martfeld, Ted Meier, Joe Roszlein.
45. MELFORT. Phil Curry, *Glen Galloway*, Marylyn Nickison, Freda Marklin, Mary Smith, Mary Worley.
46. MELVILLE. *Marion MacLean*
47. MOOSE JAW. Andy & Vi Anderson, Fran & Jim Bacon, Edith Bell, Helen Brunsdon, John Docherty, Alice & Carl Ellis, Doug Francis, Edith, John & Pat Kern, Eve King, Cy Knight, *Leith Knight*, Connie & Hugh McIntyre, Richard & Wilma Pickering, David Radchuk, Arie & Henry Van Dorland, Sheina Wait, Ed & Grace Walker.
48. MOOSE MOUNTAIN PROVINCIAL PARK. David Chaskavich, *Don Weidl*.
49. NAICAM. *Ron Jensen*.
50. NIPAWIN. Inga Brown, *Joyce Christiansen*, Ruth Christiansen, Clara Magrowski.
51. NOKOMIS. Muriel Carlson, Leland Greenfield, *Jim Hamilton*, Kay Hamilton.
52. PIKE LAKE. Mary Gilliland, Bob Godwin, *Bernie Gollop*, Mike Gollop, Ramona Harms, Erling Larsen, Kathy Meeres, Menno Nickel, Frank Roy, Stan Shadick, Jim Wedgwood, Lois Wooding.
53. PINE CREE REGIONAL PARK (E. of Eastend). Chris Donovan, *James Donovan*.
54. PREECEVILLE. *James H. Purdy*.
55. PRINCE ALBERT #1. Christy Aschim, John Burt, *Pam Burt*.
56. PRINCE ALBERT #2. LITTLE RED RIVER PARK. *Carman Dodge*, Keith Dodge, Genevieve Greif, Ted Snow, Allen Young.

57. PRINCE ALBERT NATIONAL PARK (PANP). Donna Bowler, Doug & Fay Burles, Susan Carr, Joanne Grenier, Phil Minton, *Bradley Muir*, Deb Stacey, Merv Syroteuk, Yvonne Young.
58. QU'APPELLE DAM (near Elbow). *Glen O. Honig.*
59. RAYMORE. Anemone Harris, *Wayne Harris*, Sheila Lamont.
60. REGINA. Chris Adam, Martin Bailey, Keith Barr, Margaret Belcher, Carol & Lorne Bjorklund, Frank Brazier, Eric Cooke, Jim Elliott, Bob & Sandra Ewart, Elmer Fox, Margot Gilligan, Karen & Trevor Herriott, Chris Jelinski, Kirsten Kostain, *Robert Kreba*, Carol Kujala, Wee Lee, Bob Luterbach, John MacDonald, Lauren Mang, Ron Myers, Mariela Paez, Brian Rainey, Dean & Miriam Richert, Tom Riffel, Jim Rydzyk, Frank & Ian Switzer, Dorothy Tegard, John Triffo, Pierre Wilhelm.
61. ROSCOMMON (School district south of Kelvington). Chet & Marguerite Sloan, *Dianne Sloan.*
62. ROUND LAKE (Qu'Appelle Valley south of Stockholm). Keith Croswell, *Doug Francis*, Joe Grimeau, Pat Kern.
63. ST. WALBURG. *Nigel Caulkett.*
64. SASKATCHEWAN RIVER FORKS (North of Birch Hills). Doug Boivin, Terry Toews, Barb Weidl, *Don Weidl.*
65. SASKATOON. Juhachi, Kengo, Mika & Rika Asai, Bob, Garth & Joyce Besant, Eveline Boudreau, Muriel Carlson, Pern Cordery, Paul & Vi Coutu, Edward, Hartley & Kenneth Fredeen, Colleen Gerwing, Marshall & Mary Gilliland, Bernie, Madeleine & Mike Gollop, Bob Green, Ramona Harms, *Mary & Stuart Houston*, Dick Kerbes, Bob & Suzy Kohlmeier, Katherine Ladly, Don & Jo McRobbie, David Miller, Bob, Lisa & Marian Moody, Betty Mundy, Dan Neves, Jim & Pat O'Neil, Evelyn Paterson, John Polson, Don Renaud, Stan Rowe, Zona Shenassa, Jim Slimmon, Mary Helen Smith, Jeff Turple, Heather Wagg, Jim Wedgwood, Lois Wooding.
66. SCOTT. Sandra Pedersen, *Guy Wapple*, Robert Wapple.
67. SKULL CREEK (South of Sidewood). *Jim Bennetto*, Bob Eccleston, Betty Mann, Larry Peterson.
68. SOMME. Edwin & Shirley Billiter, Sharon Birch, David Black, Florence, Ian & Jim Chase, *Donald Hooper*, Gordon Johnson.
69. SPIRITWOOD. Ed Driver, Linda Lahey, *Alan R. Smith.*
70. SQUAW RAPIDS (Saskatchewan River). Carman Dodge, *Wayne Harris*, Sheila Lamont, Wayne Renaud, Guy & Robert Wapple, Don Weidl.
71. TISDALE. *Joyce Mohr.*
72. TISDALE S.E. *Carman Dodge*, Genevieve Greif.
73. TOMPKINS. *Raymond Olson.*
74. WALDHEIM (Shekinah Retreat Centre). Martha Nickel, *Menno Nickel*, Patricia & Marcel St. Onge, Neil Sawatzky.
75. WARMAN. *Murray Doell.*
76. WAUCHOPE. *Dale Hjertaas*, Paule & Warren Hjertaas.
77. WEYBURN. Leo Belanger, *Ray Belanger*, Greg Bobbitt, Dick Gutfriend, Grace Kurtz, Betty Layh, Cy Marcotte, Nick Postey, Ron Rumball, Stewart Stairmand.
78. WHITE BEAR. Darryl, Floyd, Gary, and Laine Jordheim, *Sig Jordheim.*
79. WHITE BEAR LAKE (North of Carlyle). *Greg Bobbitt*, Gary Seib, Barbara Shourounis.
80. WHITE BEECH (North of Arran). Ida Wotherspoon, *Lindsay Wotherspoon.*
81. WOLSELEY SOUTH. *Dale Chay*, J. Donald Hayward.
82. WOOD MOUNTAIN. *Alan R. Smith.*
83. YORKTON. Bill & Joyce Anaka, Joyce Baines, Jessica & Sam Bergerman, *Joe Bergerman*, Warren Hjertaas, Mary Kuliasa, John Macgillivray, Brett, Chad & Marilyn Parlee, Abbie St. Rose, Mary Shiel, Beth Turberfield, Harold Wilkinson.

Table 1. COUNT COVERAGE AND WEATHER CONDITIONS

LOCALITY / COVERAGE AND CONDITIONS	KILOMETRES BY VEHICLE	KILOMETRES ON FOOT OR SKIS	HOURS BY VEHICLE	HOURS ON FOOT OR SKIS	HOURS WATCHING FEEDERS	TEMPERATURE MAXIMUM	TEMPERATURE MINIMUM	WIND MAXIMUM	WIND MINIMUM	SNOW MAXIMUM	SNOW MINIMUM	SKY CONDITIONS
1.ABERNETHY-KATEPWA	40	0.5	8	1	2	3	-10	10	0	5	2	mostly clear
2.ASSINIBOIA	B6	1.5	4	2	0	0	-3	S	0	0	0	clear
3.BANGOR	40	S	2	1.5	2	-2	-7	12	B	7	5	mostly cloudy, light snow
4.BIGGAR	201	10	12.S	5	0	-3	-7	10	0	12	0	partly to mostly cloudy
5.BIRCH HILLS	176	5	7	1	0.5	-9	-13	20	15	45	20	clear
6.BRIGHTWATER	69	3	3	1.S	0	-10	-15	20	10	15	S	
7.BROADVIEW	95	3	1.5	3.5	0	-4	-14	15	0	25	7	clear
8.BROMHEAD	232	1	10	0.5	0	-1	-12	32	16	1	0	clear
9.CABRI	66	2	2	1	0	-4	-4	0	0	2	0	clear
10.CARRAGANA	5	0	1	0	1	-2	-5	30	20	30	20	clear
11.CROOKED LAKE	137	2	2	1	1	1	-2	20	10	10	3	clear
12.DALMENY	40	38.5	1	15.5	0	-2	-10	15	10	20	0	mostly cloudy
13.DILKE	142	7	6	2	0	-5	-5	20	5	6	0	clear
14.DUVAL	230	7	5.5	3.5	0	-4	-9	17	0	20	0	clear to mostly cloudy
15.EASTEND	26	1	3	1	1.5	3	-2	10	S	6	0	mostly clear
16.ENDEAVOUR	B	12	1	5	0	-8	-16	10	5	30	2S	partly cloudy, clearing
17.FORT QU'APPELLE	170	4	13	1.5	25	-6	-10	0	0	3	2	mostly clear
18.FORT WALSH	177	68	10.5	36.5	2	-1	-3	40	5	20	S	clear
19.GARDNER DAM	298	1B	11	7.5	0	-3	-6	10	0	5	0	mostly cloudy
20.GLENGARIFF SD	10	0	0.5	0	B	-9	-12	1S	15	25	25	clear
21.GOODSOIL	60	2	2	1	7	-10	-17	8	5	30	20	mostly clear
22.GOOD SPIRIT LAKE	98	4	S	2	1	0	-12	10	0	10	4	mostly clear to cloudy
23.GOVENLOCK	150	29	18	14	0	-2	-16	15	0	5	0	clear
24.GRAND CENTRE	107	3	4	2	0	0	-11	3	0	35	20	clear
25.GRAVELBOURG	140	2	4	1	0	-5	-10	0	0	5	0	mostly cloudy
26.GREENBUSH	50	5	4	1	0	-5	-8	25	20	40	30	
27.HANLEY	0	5	0	1	0	-5	-5	20	15	6	2	clear
28.HENDON	10	4	1	3	0	-10	-15	15	0	30	15	partly cloudy
29.HERBERT	202	2.S	5.S	1	0	3	2	25	20	3	0	clear
30.HUDSON BAY	30	5	3	1	3	-1	-3	15	10	35	30	
31.HUMBOLDT	122	2	10	1	3	-2	-7	12	10	12	10	clear to cloudy
32.INDIAN HEAD	106	8	14	10	2	2	-6	45	30	7	4	mostly clear
33.KAMSACK	-12	-14	20	1B	B	B						
34.KEDLESTON	40	2	4	2	0	0	-5	20	5	6	0	
35.KENASTON	96	5	4	2	0	-1	-7	0	0	5	5	clear
36.KINDERSLEY	54.5	4	4	1.5	0	-1	-9	10	0	6	3	clear
37.KUTAWAGAN LAKE	210	5	5	2	0	-6	-10	50	15			mostly cloudy
38.LA RONGE	137	4	4.5	1	1	-2	-6	10	0	50	40	mostly clear
39.LAST MOUNTAIN L	425	11	16.5	6	0	-1	-6	20	0	15	2	clear
40.LEADER	6	4	1.5	1	2	1	-10	0	0	1	0	mostly clear
41.LIVELONG	0	8	0	2	6	-2	-8	15	15	20	15	clear to partly cloudy
42.LOON LAKE	10	3	0.5	1	3	5	0	10	0	15	15	clear
43.LOVE-TORCH RIVER	115	2	4	1	13	-3	-8	5	0	40	30	overcast, light snow
44.LUSELAND	215	11	6	6	1	2	-9	20	0	33	2	mostly clear
4S.MELFORT	30	3	3	2	12	-7	-7	15	10	25	15	
46.MELVILLE					6							
47.MOOSE JAW	127	30.S	6.S	16.5	3	B	-3	3	0	0	0	mostly clear
48.MOOSE MTN PP	100	2.5	6	1	1	0	-1	35	25	30	10	mostly clear to cloudy
49.NAICAM	7	2	S	3	0	-5	-5	10	0	30	5	overcast
50.NIPAWIN	10	5	1	1.5	1	0	-5	5	0	45	15	clear
51.NOKOMIS	38	0	1.5	0	0	-10	-10	30	20	clear		
52.PIKE LAKE	228	64	14.5	21.5	0	0	-12	22	11	15	5	mostly clear to cloudy
53.PINE CREE PARK	10	4	0.5	3	0	-5	-5	15	10	15	10	clear
54.PREECEVILLE	0	2	0	1	2	-10	-10					partly cloudy, light snow
55.PRINCE ALBERT 1	0	2	0	0.5	16	-2	-10	15	10	40	20	clear
56.PRINCE ALBERT 2	44	12	3.5	4.5	0.5	-5	-15	0	0	18	14	overcast
57.P.A.N.P.	120	15	8	9.5	10.5	-2	-20	3	0	30	15	clear
58.QU'APPELLE DAM	17	2	1	1	0	2	-1	10	5	10	0	clear
S9.RAYMORE	213	10	8	5	0	1	-6	10	2	25	6	mostly clear to cloudy
60.REGINA	718	63	23.5	28.5	0	1	-6	17	0	4	0	partly cloudy
61.ROSCOMMON SD	45	0	2	0	10	-12	-12	5	S	25	25	clear
62.ROUND LAKE	96	1	5	1	2	0	-10	5	0	5	1	clear
63.ST WAL8URG	110	3	4	1	0	-10	-1S	10	5	20	6	mostly clear
64.SASK.RIVER FORKS	6S	B	4.5	2	0	-6	-8	10	10			mostly clear
65.SASKATOON	552	115	52	52	26	-1	-7	10	6	3	3	clear to cloudy
66.SCOTT	200	B	4.5	3.S	0	-1	-3	20	10	10	0	mostly to partly cloudy
67.SKULL CREEK	20	3	2	1	1	4	0	5	0	8	0	mostly cloudy
68.SOMME	90	6	4	1	5	-2	-5	30	20	30	20	clear
69.SPIRITWOOD	102	1	4.5	1	0	-S	-10	10	5	15	5	partly cloudy
70.SQUAW RAPIDS	80	40	16	17	0	-2	-6	20	2	25	1S	clear to partly cloudy

Table 1. COUNT COVERAGE AND WEATHER CONDITIONS (cont.)

LOCALITY / COVERAGE AND CONDITIONS	KILOMETRES BY VEHICLE	KILOMETRES ON FOOT OR SKIS	HOURS BY VEHICLE	HOURS ON FOOT OR SKIS	HOURS WATCHING FEEDERS	TEMPERATURE MAXIMUM	TEMPERATURE MINIMUM	WIND MAXIMUM	WIND MINIMUM	SNOW MAXIMUM	SNOW MINIMUM	SKY CONDITIONS
71.TISDALE	80	0	1.5	0	0	-5	-5	20	18			partly cloudy
72.TISDALE SE	44	2	1.5	1	0	-6	-6	5	2	18	15	clear
73.TOMPKINS	16	0	3	0	0	3	-4	20	10	5	0	mostly clear
74.WALDHEIM	0	11	0	5	0	-4	-8	0	0	18	6	clear
75.WARMAN	158	8	5.5	2	0.5	-3	-10	5	0	10	0	mostly cloudy
76.WAUCHOPE	74	9	4	3.5	1	0	-3	5	0	130	4	clear to cloudy
77.WEYBURN	270	8	13	3.5	0.5	-6	-10	5	0	4	2	clear
78.WHITE BEAR	27	45	0.5	10	0	1	-3	0	0	10	0	mostly cloudy
79.WHITE BEAR LAKE	180	11	4	4	0	2	-2	20	0	16	1	partly cloudy to clear
80.WHITEBEECH	20	0	1	0	5	-1.5	-12	10	5	20	15	mostly clear
81.WOLSELEY	20	2	3	1	0	-3	-4	35	30	7	5	mostly clear to cloudy
82.WOOD MOUNTAIN	118	2	5.5	1	0	0	-5	10	0	5	0	clear
83.YORKTON	200	5	8	8	1	-10	-14	20	15	7	7	foggy to clear

Gray Partridge *Wayne Shiels/Four Winds Prairie Photography*

Table 2-1. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES
+ = high count for a species seen during count period but not on count day

SPECIES / LOCALITY AND DATE	ABERNETHY-KATEPWA 02 January	ASSINIBOIA 03 January	BANGOR 31 December	BIGGAR 29 December	BIRCH HILLS 20 December	BRIGHTWATER 20 December	BROADVIEW 20 December	BROMHEAD 01 January	CABRI 31 December	CARRAGANA 18 December	CROOKED LAKE 27 December
Mallard	13										104
Common Goldeneye					+1						2
Bald Eagle		2									
Northern Goshawk											
Rough-legged Hawk											
Golden Eagle											1
Merlin											1
Prairie Falcon									+1		
Gray Partridge		69		31	4		+2	25	+22	8	
Ring-necked Pheasant		11									
Ruffed Grouse	1		1		+1						
Sharp-tailed Grouse	1	16	14	133		6	7	2	5		21
Rock Dove	10		1	189	105	14	17	10	4		
Great Horned Owl	1	3		5	3		1	7			1
Snowy Owl				+1	3						
Downy Woodpecker	4		3	3	2						2
Hairy Woodpecker	2		2		+1					1	1
Three-toed Woodpecker											
Black-backed Woodpecker											
Pileated Woodpecker											
Horned Lark							+4	7			
Gray Jay	1									2	
Blue Jay			8	7	3						1
Black-billed Magpie	14	9	9	109	41	17	23	3	22		28
Common Raven					19					1	
Black-capped Chickadee	20	6	39	22	44	3	10			4	9
Boreal Chickadee	1		2								
Red-breasted Nuthatch			+1								
White-breasted Nuthatch	3						2				1
Brown Creeper											
Golden-crowned Kinglet											
American Robin											
Bohemian Waxwing	65			27	125	79				4	
Cedar Waxwing											
Northern Shrike											3
European Starling				10					+3		
American Tree Sparrow											
Dark-eyed Junco (S-c)							+1				2
Snow Bunting	+1000		25	144	45	+200	1	+30			
Red-winged Blackbird											
Rusty Blackbird											
Pine Grosbeak										13	
White-winged Crossbill											
Common Redpoll	+2		85	61	53		3	23			132
Hoary Redpoll				3							
Pine Siskin											
Evening Grosbeak	39		+8	20	30	1				3	
House Sparrow	50	310	46	1254	264	5	37	310	87		78
NO.COUNT DAY SPECIES	17	8	12	15	14	7	8	9	4	8	17
NO.COUNT PERIOD SPECIES	19	8	14	16	17	7	14	10	8	8	17
NO.SPECIES TABLES 3&4	2	0	0	0	0	0	2	2	0	0	1
NO.COUNT DAY INDIVIDUALS	232	426	235	2078	741	125	100	392	118	36	388

Table 2-2. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES
+ = high count for a species seen during count period but not on count day

SPECIES LOCALITY & DATE	DALMENY 26 December	DILKE 28 December	DUVAL 28 December	EASTEND 27 December	ENDEAVOUR 25 December	FORT QU'APPELLE 20 December	FORT WALSH 20 December	GARDNER DAM 22 December	GLENGARIFF SD 01 January	GOODSOIL 25 Decmeber	GOOD SPIRIT LAKE 21 December
Mallard							63		1098		
Common Goldeneye								53		10	
Bald Eagle							+5	16			
Northern Goshawk							2				+1
Rough-legged Hawk								1			
Golden Eagle			1			+1	12	1			
Merlin		+1				+1					
Prairie Falcon							1	1			
Gray Partridge		+14	10		7	+16	25	20			
Ring-necked Pheasant				2		2	22				
Ruffed Grouse						1	6			5	2
Sharp-tailed Grouse		31	1			6	103	15	+9	+2	4
Rock Dove	30	6	9			3	4	115			35
Great Horned Owl		1	4		1	3	5	4			1
Snowy Owl		+1	1			+1	+1	2			
Downy Woodpecker	1	+1		4	1	4	2	1		4	8
Hairy Woodpecker	2	+1		4	2	4	2	2	1	4	6
Three-toed Woodpecker						1	4				
Black-backed Woodpecker											
Pileated Woodpecker					+1						1
Horned Lark		15					2	6			
Gray Jay						1				5	1
Blue Jay						12				4	1
Black-billed Magpie	27	43	53	27	3	54	304	146	2	10	19
Common Raven					67		4		+2	15	5
Black-capped Chickadee	11		4	12	6	53	76	1	4	10	27
Boreal Chickadee						2					2
Red-breasted Nuthatch							3				
White-breasted Nuthatch				6	+1	3				1	1
Brown Creeper						2	1			1	
Golden-crowned Kinglet						2	1				
American Robin			1					20			
Bohemian Waxwing	+3		14			124		165	+6		2
Cedar Waxwing											
Northern Shrike						+1	2				+1
European Starling	+1						13	1			
American Tree Sparrow							3				
Dark-eyed Junco (S-c)							5				
Snow Bunting	50	+150	35		125	25	44	29	50	+50	300
Red-winged Blackbird						4					
Rusty Blackbird		1					83				
Pine Grosbeak						+8	1			5	4
White-winged Crossbill											
Common Redpoll		30	33		13	1	39	20			23
Hoary Redpoll					+3		1				
Pine Siskin											
Evening Grosbeak					3	17			2	20	7
House Sparrow	75	180	1059	15	7	189	152	626		+3	269
NO.COUNT DAY SPECIES	7	8	13	7	12	24	31	28	5	14	20
NO.COUNT PERIOD SPECIES	9	14	13	7	15	31	33	28	8	17	22
NO.SPECIES TABLES 3 & 4	0	0	0	0	1	2	5	6	0	1	0
NO.COUNT DAY INDIVIDUALS	196	307	1225	70	236	577	993	2509	59	104	718

Table 2-3. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES
+ = high count for a species seen during count period but not on count day

GOVENLOCK 21 December	GRAND CENTRE 26 December	GRAVELBOURG 24 December	GREENBUSH 24 December	HANLEY 28 December	HENDON 01 January	HERBERT 23 December	HUDSON BAY 02 January	HUMBOLDT 26 December	INDIAN HEAD 28 December	KAMSACK 04 January	**LOCALITY & DATE** **SPECIES**
											Mallard
											Common Goldeneye
											Bald Eagle
											Northern Goshawk
10											Rough-legged Hawk
12									+1		Golden Eagle
								+1			Merlin
4											Prairie Falcon
15		12				13		5	15	30	Gray Partridge
3											Ring-necked Pheasant
	+2		1				1		3		Ruffed Grouse
26		2			10		+1	6	18		Sharp-tailed Grouse
3	9	19		15		9	8	+275	28		Rock Dove
1		1			+1	4		1	1	2	Great Horned Owl
2	+1					1		+2	+1	1	Snowy Owl
	+1	1						4	10		Downy Woodpecker
				1				4	5	5	Hairy Woodpecker
	+1		1								Three-toed Woodpecker
			1								Black-backed Woodpecker
	1						+1			2	Pileated Woodpecker
301		8				27					Horned Lark
	7		3				2		1	4	Gray Jay
	12		1				2	6	11	4	Blue Jay
8	7	28			2	39	1	6	30	6	Black-billed Magpie
	24		13		2		17	1		18	Common Raven
	29	7	3		4		26	15	64	10	Black-capped Chickadee
							1	2	3	1	Boreal Chickadee
									8		Red-breasted Nuthatch
					+1		1	2		3	White-breasted Nuthatch
											Brown Creeper
											Golden-crowned Kinglet
										1	American Robin
		2						+21	36	45	Bohemian Waxwing
									30		Cedar Waxwing
										1	Northern Shrike
127		7				11		21			European Starling
3											American Tree Sparrow
1							4			10	Dark-eyed Junco (S-c)
75	+30	3				1	30	+225		85	Snow Bunting
											Red-winged Blackbird
18											Rusty Blackbird
	9						+2			11	Pine Grosbeak
											White-winged Crossbill
42	8					43	24	15	15	8	Common Redpoll
						2	1		3		Hoary Redpoll
										4	Pine Siskin
	1				+9		23	5	6	140	Evening Grosbeak
595	15	122		200		370	6	58	309	200	House Sparrow
24	11	12	7	3	4	11	15	15	20	24	NO.COUNT DAY SPECIES
25	16	12	7	3	7	11	18	20	22	24	NO.COUNT PERIOD SPECIES
7	0	0	0	0	0	0	0	0	1	2	NO.SPECIES TABLES 3 & 4
1281	122	212	23	216	18	520	147	151	597	616	NO.COUNT DAY INDIVIDUALS

Table 2-4. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES
+ = high count for a species seen during count period but not on count day

SPECIES / LOCALITY & DATE	KEDLESTON 28 December	KENASTON 24 December	KINDERSLEY 26 December	KUTAWAGAN LAKE 30 December	LA RONGE 26 December	LAST MOUNTAIN LAKE W.M.U. 27 December	LEADER 29 December	LIVELONG 02 January	LOON LAKE 27 December	LOVE-TORCH RIVER 30 December	LUSELAND 24 December
Mallard											
Common Goldeneye											
Bald Eagle							1				
Northern Goshawk											
Rough-legged Hawk											
Golden Eagle				+1		2					
Merlin	1	+1									1
Prairie Falcon											
Gray Partridge	18	14	7	8		102					22
Ring-necked Pheasant							3				
Ruffed Grouse					+1			4			
Sharp-tailed Grouse	+8	14	14	20		92					59
Rock Dove	7	30	25	5		180	3				63
Great Horned Owl		2	1			2	1				4
Snowy Owl	2	1	5	+1		7		+1			+3
Downy Woodpecker		1			1	1	1	4		4	3
Hairy Woodpecker					3			2	2	9	
Three-toed Woodpecker											
Black-backed Woodpecker											
Pileated Woodpecker									1	+1	
Horned Lark		1	75	+2		3					3
Gray Jay					3				3	1	
Blue Jay		1			1			+2	5	21	4
Black-billed Magpie	8	12	5	25	2	91	52	4	2	12	43
Common Raven		+7			137			6	6	57	
Black-capped Chickadee		1		2	7	11	2	10	4	48	27
Boreal Chickadee					7				3	1	
Red-breasted Nuthatch								+2		1	
White-breasted Nuthatch									2	2	1
Brown Creeper											
Golden-crowned Kinglet										4	
American Robin											
Bohemian Waxwing			21	4				50			78
Cedar Waxwing											2
Northern Shrike										+1	
European Starling						17					13
American Tree Sparrow											1
Dark-eyed Junco (S-c)									1		
Snow Bunting	1	165	95	360		2260		+50	+30	159	15
Red-winged Blackbird											
Rusty Blackbird		1									
Pine Grosbeak					6			20		3	
White-winged Crossbill											
Common Redpoll		75		2	25			40	3	12	105
Hoary Redpoll					3			+2	2		1
Pine Siskin									+2	2	
Evening Grosbeak					74			60	25	263	
House Sparrow	100	125	146	88		1448	24	40	12	53	267
NO.COUNT DAY SPECIES	7	14	11	9	12	14	8	11	15	18	19
NO.COUNT PERIOD SPECIES	8	16	11	12	13	14	8	17	17	20	20
NO.SPECIES TABLES 3 & 4	0	0	1	0	0	1	0	1	1	1	0
NO.COUNT DAY INDIVIDUALS	137	443	574	514	266	4252	87	240	72	653	712

Table 2-5. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES

+ = high count for a species seen during count period but not on count day

MELFORT 03 January	MELVILLE 21 December	MOOSE JAW 26 December	MOOSE MTN PP 30 December	NAICAM 26 December	NIPAWIN 28 December	NOKOMIS 01 January	PIKE LAKE 03 January	PINE CREE PARK 31 December	PREECEVILLE 25 December	PRINCE ALBERT 1 28 December	LOCALITY & DATE SPECIES
											Mallard
											Common Goldeneye
						+1					Bald Eagle
							1			1	Northern Goshawk
											Rough-legged Hawk
											Golden Eagle
											Merlin
											Prairie Falcon
10	+10	99		12							Gray Partridge
		2									Ring-necked Pheasant
							+1		1	2	Ruffed Grouse
4	+3	5	14	4		25	74				Sharp-tailed Grouse
		503			20		10		24		Rock Dove
2	+1	1	1	1			11	1		+1	Great Horned Owl
3		3				1	1				Snowy Owl
		4	2	1	1	+1	8		2	3	Downy Woodpecker
	+1	2	1	2	1		17		1	+2	Hairy Woodpecker
											Three-toed Woodpecker
											Black-backed Woodpecker
											Pileated Woodpecker
											Horned Lark
5					2						Gray Jay
12			4	2	2		46		1	8	Blue Jay
12	+2	101	5	4	2	4	138	13			Black-billed Magpie
8				1	23		10		+1	+6	Common Raven
20	12	22	50	1	13	+2	86	12	7	20	Black-capped Chickadee
			3		3						Boreal Chickadee
		+1					1				Red-breasted Nuthatch
	1	4	2				3		2	4	White-breasted Nuthatch
		+1									Brown Creeper
											Golden-crowned Kinglet
							106				American Robin
18	+8	22		+7			2357				Bohemian Waxwing
							13				Cedar Waxwing
							1				Northern Shrike
		27					6				European Starling
											American Tree Sparrow
1		2									Dark-eyed Junco (S-c)
				+100		350	6				Snow Bunting
							7				Red-winged Blackbird
							4				Rusty Blackbird
20		+3	9	1	1		14		4		Pine Grosbeak
											White-winged Crossbill
3	15	51	94	6			253		1	2	Common Redpoll
											Hoary Redpoll
											Pine Siskin
30		+2	54		36		77		5	100	Evening Grosbeak
400	12	1050	15	5	7	8	693		42	+4	House Sparrow
15	5	16	13	12	12	5	25	3	11	8	NO.COUNT DAY SPECIES
15	11	20	13	14	12	8	26	3	12	12	NO.COUNT PERIOD SPECIES
0	1	0	0	0	0	0	0	0	0	0	NO.SPECIES TABLES 3 & 4
548	41	1898	254	40	111	388	3943	26	90	140	NO.COUNT DAY INDIVIDUALS

Table 2-6. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES

+ = high count for a species seen during count period but not on count day

SPECIES / LOCALITY & DATE	PRINCE ALBERT 2 21 December	Prince Albert N.P. 19 December	QU'APPELLE DAM 23 December	RAYMORE 26 December	REGINA 26 December	ROSCOMMON SD 21 December	ROUND LAKE 02 January	ST WALBURG 26 December	SASK.RIVER FORKS 03 January	SASKATOON 25 December	SCOTT 04 January
Mallard				3		19					4
Common Goldeneye			4							210	
Bald Eagle							+1				
Northern Goshawk				1	+1					1	
Rough-legged Hawk											
Golden Eagle											
Merlin	1			+1	7					9	
Prairie Falcon											
Gray Partridge				19	43	+7	15			39	20
Ring-necked Pheasant							4				
Ruffed Grouse		1		1	2					5	
Sharp-tailed Grouse			12	26	10		25			18	1
Rock Dove	151		6	39	1005			7		3173	39
Great Horned Owl				9	16		+2	1		8	1
Snowy Owl				1	19					1	1
Downy Woodpecker	1	3		3	4	4	7			25	
Hairy Woodpecker		5		1	6	2	6		1	25	1
Three-toed Woodpecker		2									
Black-backed Woodpecker		2								+1	
Pileated Woodpecker	1	1							1		
Horned Lark				3	1						
Gray Jay	1	15							1		
Blue Jay	2	2		3	3	+1	14	2	2	50	6
Black-billed Magpie	20	13	16	46	109	6	12	4	15	452	65
Common Raven	56	7		1		1	+1	12	3	2	
Black-capped Chickadee	40	28		19	37	7	26	8	1	270	14
Boreal Chickadee	1	6			2		1	1	4	5	4
Red-breasted Nuthatch		1		+1	1					9	
White-breasted Nuthatch		1			5		8			7	
Brown Creeper					1					2	
Golden-crowned Kinglet					3					7	2
American Robin					9		+1			23	
Bohemian Waxwing	209		100	14	7	+35		50		1167	165
Cedar Waxwing					16					69	
Northern Shrike				1						2	
European Starling				4	10					70	
American Tree Sparrow										1	
Dark-eyed Junco (S-c)	+2			1	1					1	
Snow Bunting				38	3	30		7	4	27	1047
Red-winged Blackbird							1				
Rusty Blackbird				2	5						
Pine Grosbeak	12	3		1			4	4	81	3	
White-winged Crossbill				+1						21	2
Common Redpoll	9			75	22		150		35	208	20
Hoary Redpoll				3			30			1	2
Pine Siskin										3	
Evening Grosbeak	395	56		+3		6	20		3	1	
House Sparrow	179			1030	2985		150	3		2649	458
NO.COUNT DAY SPECIES	15	16	6	24	32	7	17	11	12	40	18
NO.COUNT PERIOD SPECIES	16	18	6	28	33	10	21	11	12	42	18
NO.SPECIES TABLES 3 & 4	0	3	0	0	5	0	1	0	0	5	2
NO.COUNT DAY INDIVIDUALS	1078	149	141	1341	5102	56	474	99	151	8577	1878

Table 2-7. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES
+ = high count for a species seen during count period but not on count day

SKULL CREEK 26 December	SOMME 18 December	SPIRITWOOD 28 December	SQUAW RAPIDS 18 December	TISDALE 25 December	TISDALE S. E. 26 December	TOMPKINS 02 January	WALDHEIM 26 December	WARMAN 26 December	WAUCHOPE 26 December	WEYBURN 20 December	**LOCALITY & DATE** **SPECIES**
				6							Mallard
			226								Common Goldeneye
+1		11									Bald Eagle
	+1		1								Northern Goshawk
	1									1	Rough-legged Hawk
+1						1					Golden Eagle
											Merlin
+1											Prairie Falcon
	+10					9	3	+7	13	93	Gray Partridge
10										+2	Ring-necked Pheasant
	11		12				3		1		Ruffed Grouse
	3			11		123	4	15	3	30	Sharp-tailed Grouse
3	6	7			14			22	2	97	Rock Dove
5	1						1	3	2	5	Great Horned Owl
	+1			1				+1		+1	Snowy Owl
2	5		3	3				1	1	1	Downy Woodpecker
5	6		5	3	1		1		4	3	Hairy Woodpecker
	1		1								Three-toed Woodpecker
	+1		2							+1	Black-backed Woodpecker
	1		3								Pileated Woodpecker
4								+1	6	4	Horned Lark
	4		19								Gray Jay
3	9	5	6	2							Blue Jay
22	14	11	13	4	4	7		17	29	23	Black-billed Magpie
	39	6	199	7	2						Common Raven
26	35	11	30	7			4	8	28	12	Black-capped Chickadee
	9	5	9						2		Boreal Chickadee
			1								Red-breasted Nuthatch
	4									1	White-breasted Nuthatch
			1								Brown Creeper
									1		Golden-crowned Kinglet
											American Robin
	+1						8				Bohemian Waxwing
											Cedar Waxwing
2	+1		1					1		1	Northern Shrike
	+1								6	14	European Starling
									1		American Tree Sparrow
	7								1	+17	Dark-eyed Junco (S-c)
	605		601			50		1			Snow Bunting
	1										Red-winged Blackbird
										1	Rusty Blackbird
	13		14		1					+1	Pine Grosbeak
							2				White-winged Crossbill
6	24	40	21		37				401	2	Common Redpoll
29	2		1							+2	Hoary Redpoll
										+6	Pine Siskin
	39	1	27	12	3						Evening Grosbeak
99	37	36	7	22	26	25		5	241	613	House Sparrow
14	25	9	30	10	8	6	8	9	18	16	NO.COUNT DAY SPECIES
18	33	9	30	10	8	6	8	12	18	23	NO.COUNT PERIOD SPECIES
2	2	0	7	0	0	0	0	0	1	0	NO.SPECIES TABLES 3 & 4
247	879	122	1245	72	88	215	26	73	743	901	NO.COUNT DAY INDIVIDUALS

Table 2-8. SPECIES RECORDED FROM MORE THAN THREE LOCALITIES
+ = high count for a species seen during count period but not on count day

SPECIES / LOCALITY & DATE	WHITE BEAR 26 December	WHITE BEAR LAKE 28 December	WHITEBEECH 26 December	WOLSELEY SOUTH 04 January	WOOD MOUNTAIN 23 December	YORKTON 29 December	SPECIES TOTAL	NUMBER OF COUNTS SEEN COUNT DAY	NUMBER OF COUNTS TOTAL COUNT PERIOD
Mallard							1310	8	8
Common Goldeneye							505	6	7
Bald Eagle							30	4	8
Northern Goshawk					1		8	7	10
Rough-legged Hawk							13	4	4
Golden Eagle	+1				1		31	8	13
Merlin							20	6	11
Prairie Falcon							6	3	5
Gray Partridge	47						882	34	42
Ring-necked Pheasant	8						67	11	11
Ruffed Grouse		1	+1	+1		+1	65	21	28
Sharp-tailed Grouse	19				8		1060	46	51
Rock Dove	150	2				197	6433	50	51
Great Horned Owl	3	1	+1	1			134	45	50
Snowy Owl	+1						56	19	33
Downy Woodpecker		1	2	1		2	159	48	51
Hairy Woodpecker	+1	2	2	1		1	169	47	52
Three-toed Woodpecker							10	6	7
Black-backed Woodpecker							5	3	6
Pileated Woodpecker		+1					12	8	13
Horned Lark	1	1			19		487	19	22
Gray Jay			2				83	21	21
Blue Jay		2	8	2		2	302	43	45
Black-billed Magpie	44	15	+9	3	24	16	2629	76	77
Common Raven			4				773	33	38
Black-capped Chickadee		15	15	2	1	37	1555	70	71
Boreal Chickadee						1	81	26	26
Red-breasted Nuthatch							25	7	12
White-breasted Nuthatch		2					72	26	28
Brown Creeper							8	6	7
Golden-crowned Kinglet							20	7	7
American Robin							160	6	7
Bohemian Waxwing		16		+5	302	5276	29	37	
Cedar Waxwing							130	5	5
Northern Shrike							15	10	14
European Starling	+3						357	16	20
American Tree Sparrow							9	5	5
Dark-eyed Junco (S-c)							37	13	16
Snow Bunting	23			7	3	55	6979	41	51
Red-winged Blackbird							13	4	4
Rusty Blackbird	+4						115	9	9
Pine Grosbeak							257	26	29
White-winged Crossbill							25	3	4
Common Redpoll	24	7	+12	+30			2439	51	54
Hoary Redpoll							84	15	18
Pine Siskin							9	3	5
Evening Grosbeak			45				1649	36	41
House Sparrow	200	50	12	20	14	610	20894	69	72
NO.COUNT DAY SPECIES	10	13	8	8	8	10			
NO.COUNT PERIOD SPECIES	15	14	12	11	8	12			
NO.SPECIES TABLES 3 & 4	0	0	0	0	0	1			
NO.COUNT DAY INDIVIDUALS	519	115	90	37	71	1223			

Table 3. SPECIES SEEN IN THREE OR FEWER LOCALITIES

SPECIES	*LOCATIONS AND NUMBERS SEEN*
Canada Goose	Broadview, +3; Regina, 739
Lesser Scaup	Goodsoil, 10
Hooded Merganser	Squaw Rapids, 1
Common Merganser	Gardiner Dam, 154; Saskatoon, 1; Squaw Rapids, 2
Red-breasted Merganser	Gardiner Dam, 2
Northern Harrier	Govenlock, 1; Melville, 1
Chukar	Gardiner Dam, 6
Spruce Grouse	Kamsack, 10; Livelong, +2; Squaw Rapids, 3
Sage Grouse	Govenlock, +3; Skull Creek, +2
Wild Turkey	Fort Walsh, 14
Glaucous Gull	Gardiner Dam, 1
Northern Hawk-Owl	Squaw Rapids, 1
Barred Owl	Prince Albert National Park (P.A.N.P.), +1
Great Gray Owl	Love-Torch River, 1; P.A.N.P., +1
Short-eared Owl	Bromhead, +1; Fort Qu'Appelle, +1; Govenlock, 6
Northern Saw-whet Owl	Crooked Lake, 1; Round Lake, 1
Northern Flicker (Y)	Regina, 2; Saskatoon, 5
American Crow	Regina, 5; Yorkton, +1
Mountain Bluebird	Fort Qu'Appelle, 1; Saskatoon, 2; Wauchope, 1
Varied Thrush	Abernethy-Katepwa, 1; Saskatoon, 1
White-throated Sparrow	Loon Lake, 1
White-crowned Sparrow	Broadview, +1
Harris' Sparrow	Govenlock, 3; Somme, +1
Lapland Longspur	Gardiner Dam, 2; Govenlock, 22; Kindersley, 180
Brewer's Blackbird	Gardiner Dam, 1; Somme, 2
Common Grackle	Regina, 1
Rosy Finch	Fort Walsh, 52; Govenlock, 2; Skull Creek, 31
Purple Finch	Abernethy-Katepwa, 6; Endeavour, 1; Saskatoon, +1
Red Crossbill	Kamsack, 15; Scott, 10

Table 4. BIRDS NOT IDENTIFIED TO SPECIES

SPECIES	*LOCATIONS AND NUMBERS SEEN*
ACCIPITER species	Fort Walsh, 2
SMALL ACCIPITER species	Squaw Rapids, 1
LARGE FALCON species	Govenlock, 1; Indian Head, 1
WOODPECKER species	Fort Walsh, 2; P.A.N.P., 3
REDPOLL species	Biggar, 60; Bromhead, 4; Fort Walsh, 1; Last Mountain Lake, 36; Regina, 4; Scott, 20; Squaw Rapids, 17

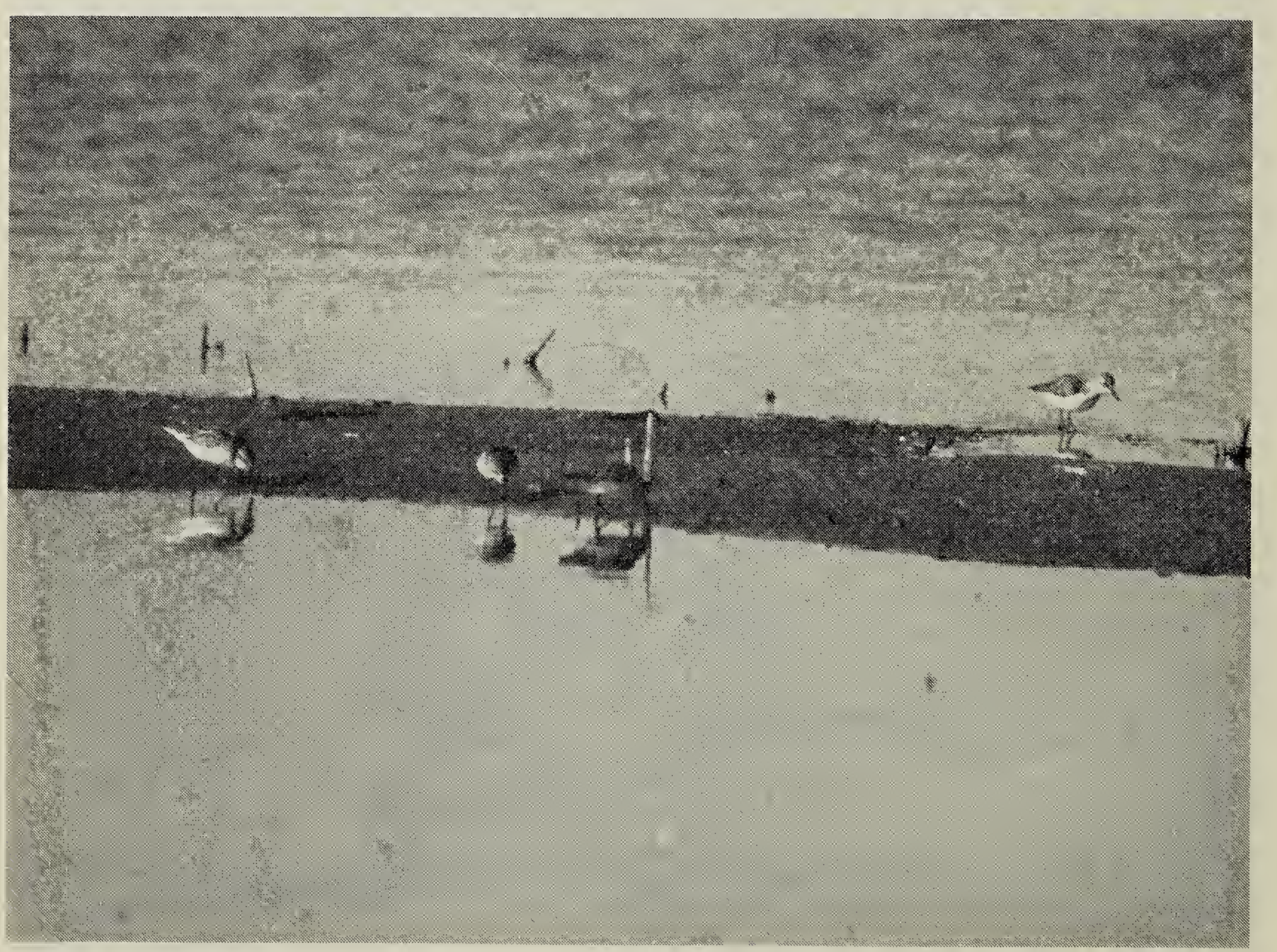
Golden Crowned Kinglet *Ken Lumbis*

CALL FOR ASSISTANCE: PRAIRIE-NORTHWEST TERRITORIES SHOREBIRD SURVEY PROGRAM

In 1987 the Canadian Wildlife Service, Western and Northern Region, will be initiating a program to survey major shorebird staging and nesting areas in the prairie provinces and the Northwest Territories. This project is part of the International Shorebird Surveys Program.

Similar surveys in Atlantic Canada have identified a number of significant staging areas in the Bay of Fundy. Many of these sites are now proposed for protection through the Ramsar Convention and the shorebird "Sister Reserves Program" (a hemisphere-wide system of reserves for shorebird protection). However, very little data exists on shorebird use in the prairie provinces or the Northwest Territories.

For this program to accomplish its objectives the Canadian Wildlife Service will have to rely heavily on the efforts of outside individuals, organizations and government agencies. Through your participation in this project, determination of potential Sister Reserves in these regions of Canada will be possible. Everyone who takes part in the program will receive the annual summary of the Canadian survey results (provincial breakdowns are included). So if you are interested in surveying shorebird staging and/or nesting habitats in the prairie provinces or the Northwest Territories, please contact **H. Loney Dickson, Wildlife Biologist, Canadian Wildlife Service, Western and Northern Region, Second Floor, 4999 - 98 Avenue, Edmonton, Alberta, T6B 2X3** or telephone **(403) 420-2525.**



Sandpipers *Doug Gilroy*

American Avocet on nest *Andrius Valadka*

Autumn, immature American Golden Plower *Wayne Renaud*

"NEW" SPECIES FOR PRAIRIE BIRDERS

MARY D. GILLILAND, 902 University Drive, Saskatoon, Saskatchewan. S7N 0K1

In 1983 The American Ornithologists' Union (A.O.U) Check-list Committee announced taxonomic changes which gave area birders the possibility of adding new species to their life lists. The 1983 Check-list includes as "new" Clark's Grebe, Red-naped Sapsucker and Pacific Loon, all of which result from the splitting of former full species and all of which occur in the Prairie Provinces.[1] The principal differentiating field marks and the known breeding range are summarized in Table 1.

What has heretofore been known as Arctic Loon, a single species breeding regularly across northern Europe, Siberia and northern Canada and seen rarely in the southern Prairies during migration, is now considered two species. Only one of these, however — the newly-named Pacific Loon (*Gavia pacifica*) — is normally found in Canada. The old name Arctic Loon (*G. arctica*) now represents only the populations which occur in Europe and Asia and overlap with Pacific Loon locally in western Alaska.

What were previously labelled as two colour phases of Western Grebe have become full species. The light-phase bird is now called Clark's Grebe (*Aechmophorus clarkii*); the dark phase retains the name Western Grebe (*A. occidentalis*). R. W. Nero's 1957 discovery of 5 light-phase birds in a flock of about 500 Western Grebes on Old Wives Lake in southern Saskatchewan appears to have been the first Prairie report of Clark's Grebe and the only one for many years.[9]

Table 1. MAIN VISIBLE DIFFERENCES AND COMPARATIVE BREEDING RANGE FOR PACIFIC AND ARCTIC LOONS, WESTERN AND CLARK'S GREBES, YELLOW-BELLIED AND RED-NAPED SAPSUCKERS.

	Main Visible Differences	*Breeding Range*
Arctic Loon	Foreneck greenish (usually); purplish (uncommonly)	n. Europe, Siberia w. Alaska (two of original subspecies)
Pacific Loon	Foreneck purplish (usually); greenish (uncommonly)	ne. Siberia, Alaska n. Canada
Western Grebe	Black colour surrounds eye	Prairie Prov. (common) w. U.S. (less common)
Clark's Grebe	White plumage surrounds eye	Prairie Prov. (rare) w. U.S. (more common to south)
Yellow-bellied Sapsucker	Back of head white (continuous with eyestripes)	e. Canada, Prairie Prov., N.W.T.
Red-naped Sapsucker	Back of head (nape) has red patch interrupting white eyestripes)	Rocky Mountains and Great Basin, Cypress Hills

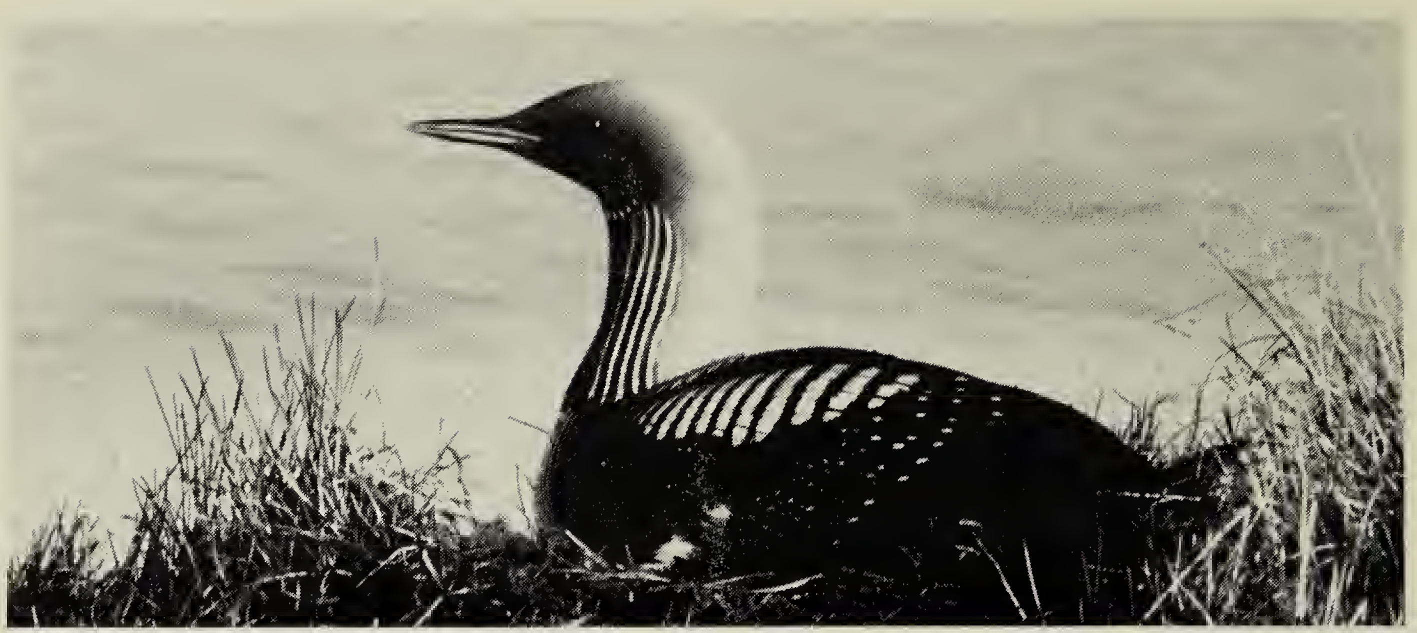
More recently, however, birders in both southern Saskatchewan and southern Manitoba have found either singles or possible pairs several times.[5] [6] [7] [8] Though geographical distribution of the two species is not yet fully understood, there seems to be general consensus that Clark's Grebe occurs only rarely in northern populations and that Western Grebe is likewise very scarce in southern latitudes. (See *Blue Jay* 42:47-51 for a discussion of differences in characteristics and range of these two species.) Thus, while Clark's Grebe will certainly be less frequently found in the Prairie Provinces than in California, a possibility of even one in any flock of Western Grebes adds to the excitement for birders.

Yellow-bellied Sapsucker (*Sphyrapicus varius*), occurring widely in Canada and the United States, has also undergone a recent split. In 1983, a full species was created from a Yellow-bellied subspecies which had already often been considered separate: Red-naped Sapsucker (*S. nuchalis*). The Red-naped variety is found primarily in the Rocky Mountains and Great Basin and in the Cypress Hills of Alberta and Saskatchewan. Reports from Saskatchewans Cypress Hills in June 1986 by tour groups from both the Saskatchewan Natural History Society (SNHS) and the International Ornithological Congress included numerous sightings of Red-naped Sapsucker. The SNHS group concluded that it was difficult, in fact, to find even one Yellow-bellied Sapsucker in several days' birding.

Because the three field guides generally used in the Prairies all appeared before the A.O.U's revisions, none describes these three species under the new names and each treats differently what information is given. Only the National Geographic Society's guide treats all of them, albeit under the original species' names.[12] The text accompanying Arctic Loon mentions throat colour variations. Clark's Grebe is depicted as a "light-phase" variant of Western Grebe and Red-naped Sapsucker is well illustrated in drawings of Yellow-bellied Sapsucker, subspecies *nuchalis*. Peterson notes and illustrates "two patterns of head" for Western Grebe, but points out no visible differences for the other two species.[10] Robbins *et al.* describe Pacific Loon under its old name and illustrate both it and the subspecies which is now the new full species Arctic Loon.[11] However, they cause even more confusion by labelling their illustration of what is now Arctic Loon, "Pacific race." "Pacific" for them appears to be only a geographical reference and to have no connection with the current species names. Distinctive field marks for Clark's Grebe and Red-naped Sapsucker, in both cases under their old species' names, are shown in photographs in the *Audubon Society Master Guide to Birding*, but this publication does not discuss the Pacific Loon's possible colour differences.[2]

W. Earl Godfrey's revised *Birds of Canada*, 1986 edition, describes all species, each under its current correct name.[4] Godfrey gives no map for Clark's Grebe but does illustrate the facial differences. The other two new species are not pictured.

Substituting "Pacific Loon" in field guide entries for Arctic Loon will suffice in general to designate the newly-named loon. However, in this case, the challenge may really be greater than the field guides indicate. Authorities seem to disagree about the reliability of those field marks supposedly separating the two loons: Arctic and Pacific. One of the primary differences is given as throat colour. Foreneck colour in Pacific Loon is said to be purplish, in Arctic Loon greenish. Of Pacific Loon, the National Geographic guide states: ". . . .throat shows purple patch. Patch is dark green in the slightly larger form [one of two current subspecies



"Arctic" Loon (pacifica?) on nest, Victoria Island, N.W.T. *Wayne Renaud*

of Arctic Loon] breeding in Siberia and perhaps on the west coast of Alaska; . . . .throat patches look black under most circumstances." While neither Peterson nor Robbins mentions throat colour, Robbins' illustration of his "Pacific race" shows a green throat and his Arctic Loon a purple one. The Master Guide simply calls this loon's throat "black."

Godfrey refers only to the "black throat" of summer plumage in the *Birds of Canada*, and does not mention any other throat coloration.[4] This is particularly noteworthy in that it was also Godfrey, writing earlier in Palmer's *Handbook of North American Birds*, who indicated that there might actually be less certainty regarding the role of throat colour in differentiating the two loons.[3] He wrote at that time, of what was then Arctic Loon subspecies *pacifica* and is now Pacific Loon: "lower throat and foreneck have purplish gloss, *rarely greenish gloss (many specimens show green gloss when held away from light source)*" [italics mine]. He went on to describe also the other two subgroups which were then within, and now compose, Arctic Loon. One of these (*G. arctica arctica)*, with darker nape and longer wing and bill than *pacifica*, occurs from northern Europe into western Siberia and has *purplish throat sheen* [italics mine]. The other (*G. arctica viridigularis*), found in eastern Siberia, has still longer wing and bill and has *greenish throat sheen*, except for birds occurring along a narrow coastal strip of northeastern Siberia, which again show *purple overtones* in throat and foreneck (italics mine). To confuse identification even more, subspecies *viridigularis* (viridigularis means "green-throated") actually overlaps with Pacific Loon in western Alaska and in eastern Siberia. Finally, Godfrey stated that "individuals with greenish throat sheen but otherwise typical *pacifica* are sporadic in North American breeding populations," thus ensuring that either green or purple throat sheen is possible in any Pacific Loon.[3]

His ultimate conclusion is not unexpected: "Because of overlap in both color variation and measurements, subspecies (now full species) are separable only by a combination of characters and only in Def. Alt. [i.e. breeding] plumage." Moreover, it is probably only in the hand that identification of these two species is possible. The other characteristics said to be distinctive, i.e., size variation in wing and bill and a slight difference in intensity of nape colour, are not really measurable in a field observation. In plumages other than breeding, the two species are not separable.

In short, a Pacific Loon with greenish throat may be just that — or it might be a rare extralimital Arctic loon. A Pacific Loon with purplish throat may be a Pacific Loon, or it could possibly, though unlikely, be a wandering Arctic Loon from northeastern Siberia. The average birder certainly cannot know for sure which is which, and even the expert will finally be caught up in statistics. The odds are that a purplish-throated bird in Canada is *pacifica* and a greenish-throated bird probably is as well.

Nonetheless, hoping to find that possible wandering Arctic Loon, members of the SNHS June 1986 tour to Churchill, Manitoba, spent hours carefully examining Pacific Loons through a variety of 7x, 8x, 9x and 10x binoculars and scopes, including a 130x telescope. Light conditions were excellent, with full afternoon sun on the several birds seen, all of which were swimming and diving in open water within 50 m of the observers. Most were typical *pacifica*, with purple throat sheen. Two birds, however, clearly showed green gloss on lower throat and foreneck. In one case this occurred regardless of light direction; in the other the green sheen, though definitely present, seemed to show some purplish overtones with more direct light. While the group very much wished to report a true Arctic Loon, the final descriptions and identifications, regretfully tendered, were of one "Pacific-type loon with definite greenish throat and a second bird possibly the same."

However, given the obvious uncertainties, birders on *pacifica*'s breeding grounds along the extreme northern edge of the provinces from British Columbia to Quebec and in the Northwest Territories will no doubt from now on be carefully examining throat colour and wondering about relative lengths of wing and bill in every Pacific Loon they see. The chance of finding an Arctic Loon is surely very slim — but secretly and deep inside every birder somehow believes in the possibility of beating the odds!

[1] AMERICAN ORNITHOLOGISTS' UNION. 1983. Check-list of North American birds. 6th edition. American Ornithologists' Union, Lawrence, Kansas. 877 pp.

[2] FARRAND, JOHN, Jr. 1983. The Audubon Society master guide to birding. Vols. 1 and 2. Alfred A. Knopf, New York. 447, 398 pp.

[3] GODFREY, W.E. 1962. Pp. 41-44 *In* Handbook of North American birds (R.S. Palmer, Ed.) Vol. 1. Yale University Press, New Haven. 567 pp.

[4] GODFREY, W.E. 1986. The Birds of Canada. Revised edition. National Museum of Natural Sciences, Ottawa. 594 pp.

[5] GOLLOP, J.B. 1985. The spring season. Prairie Provinces region. *American Birds* 39(3):315-317.

[6] GOLLOP, J.B. 1986. The nesting season. Prairie Provinces region. *American Birds*. In press.

[7] GOLLOP, J.B. 1986. The spring season. Prairie Provinces region. *American Birds* 40(3):487-488.

[8] HARRIS W.C. 1985. The nesting season. Prairie Provinces region. *American Birds* 39(5):927-928.

[9] PALMER, R.S. 1962. Pp. 94-96. *In* Handbook of North American Birds (R.S. Palmer, Ed.) Vol 1. Yale University Press, New Haven. 567 pp.

[10] PETERSON, R.T. 1980. A field guide to the birds east of the Rockies. Houghton Mifflin, Boston. 384 pp.

[11] ROBBINS, C.S., BERTEL BRUUN and H.S. ZIM. 1983. A guide to field identification. Birds of North America. Revised edition. Golden Press, New York. 360 pp.

[12] SCOTT, S.L., Ed. 1983. Field guide to the birds of North America National Geographic Society, Washington, D.C. 463 pp.

BALD EAGLE CONCENTRATION AT HEART LAKE, MANITOBA

PETER TAYLOR, P.O. Box 597, Pinawa, Manitoba. ROE 1LO

Bald Eagles sometimes gather on the Rennie River near Heart Lake, in Whiteshell Provincial Park, during spring migration.[2] [3] [4] Hatch has noted that "the water opens up early here and the eagles concentrate to feed on the dead fish which seem to be particularly prevalent at this spot".[3] Peak counts of about a dozen birds often occur around 20 April; subadults usually predominate (B. Burwell, D.R.M. Hatch, M. Siepman, D. Whellams, pers. comm.) The highest previous count of which I am aware was 5 adults and 13 subadults seen by Hatch and Siepman on 20 April 1982.[3] This note describes an unusually large gathering in April 1986.

Bud Burwell alerted me to this spectacle. He had counted 26 eagles at Heart Lake on 8 April, and 39 on the morning of 9 April. On the evening of 9 April most of the eagles were standing on the lake ice, in groups of up to ten birds, about 2 km from the vantage point alongside Provincial Road 307. Less than a quarter of the lake surface was open water. Dozens of Common Ravens and Herring Gulls were also on the ice, and there were small flocks of Common Mergansers in the water.

Up to 45 eagles were counted on repeated scans of the lake with a 30-power telescope. An accurate count was not possible, however, because part of the lake surface was obscured from view, and some eagles were flying back and forth between the ice and the trees surrounding the lake. A few were also scattered along the river. It is estimated that about 60 were probably present, 45 being an absolute minimum. Burwell and I both judged that the numbers of adults and subadults were roughly equal. Around sunset, the eagles left the lake in ones and twos to roost nearby.

Table 1. SUMMARY OF WEATHER CONDITIONS AT WHITESHELL NUCLEAR RESEARCH ESTABLISHMENT, 1-14 APRIL 1986.

Date	*Max. Temp. (°C)*	*Sunshine (hours)*	*Average wind direction*	*Average wind speed (km/h)**	*Precipitation*
1	7.3	10.2	NW	26	Nil
2	7.8	1.4	ESE	23	Nil
3	11.5	6.8	NE	15	Nil
4	12.6	8.9	SE	22	0.2 mm rain
5	6.6	1.3	SE	5	Nil
6	15.8	5.7	SW	15	4.3 mm rain
7	12.4	8.9	NW	33	Trace of rain
8	8.9	10.8	NNW	27	Nil
9	15.1	11.2	NW	3	Nil
10	20.0	11.1	SSE	13	Nil
11	16.5	3.8	ESE	18	Nil
12	-6.1	0.0	NNW	26	3.6 cm snow
13	0.7	0.0	N	17	Nil
14	4.8	1.2	NNW	31	Nil

* Average of hourly readings between 0800 and 1800, measured 60 m above ground.

On 10 April Martin Siepman saw only 5 adult eagles and about 25 subadults. On 11 April Bruce Stewart saw about 25 subadults only. On 20 April Howard Ross and I saw about nine birds, again all subadults. Chris Pritchard reported about seven dark eagles on 27 April. On 3 May a large group of birders saw only two eagles, passing high overhead. By that time, the rivers and many lakes were largely ice-free.

The concentration of eagles thus appeared to consist of a brief stopover by adult birds and a more leisurely staging by subadults. The small number of Bald Eagles that nest along the Winnipeg River appear to establish nesting territories as soon as they arrive, usually in the second half of March (personal records). Those residing on local lakes may start nesting somewhat later, but the adults at Heart Lake on 9 April 1986 were likely migrating farther north.

Meteorological records from the Whiteshell Nuclear Research Establishment, about 30 km west-northwest of Heart Lake, provide a plausible explanation for this concentration of eagles. Records are summarized in Table 1.

Early April 1986 was generally sunny, with daily maximum temperatures well above the long-term average of about 6°C. Winds had a southerly component on four of five days between 2 and 6 April, and unusually early arrivals were noted for many migratory birds in southern Manitoba. The prolonged sunshine and moderate southeasterly wind on 4 April were probably most favorable for Bald Eagles entering the Whiteshell region via northwestern Ontario, as proposed by Gerrard and Hatch.[2]

Conditions deteriorated somewhat on 7 and 8 April, with strong northwesterly winds, while 9 April (when the highest count was made) was largely calm. Good migration conditions occurred again on 10 and 11 April, with the resumption of moderate southeasterly winds. The adult Bald Eagles disappeared at this time, but there was little or no change in the numbers of subadults.

The mild weather ended abruptly when a cold front passed on the evening of 11 April. The air temperature dropped about 15° C in two hours, and remained at or below the freezing point for the next two days, with strong northerly winds and heavy cloud-cover, before more seasonal conditions slowly returned. This cold spell presumably hindered further migration or dispersal of the subadult birds, but their migration is less urgent, and known to be somewhat later, than that of adults.[2]

Despite the warm weather in early April, most rivers and lakes were still icebound, and deep snow remained in the forest. The concentration of Bald Eagles thus appears to have resulted from intermittently favorable weather conditions for migration in the first half of April, combined with limited availability of good feeding areas.

I am grateful to Bud Burwell, for promptly telling me about the eagles, and to Phil Davis for access to meteorological records.

[1] GERRARD, J.M. and P.N. GERRARD. 1982. Spring migration of Bald Eagles near Saskatoon. *Blue Jay* 40:97-104.

[2] GERRARD, J.M. and D.R.M. HATCH. 1983. Bald Eagle migration through southern Saskatchewan and Manitoba and North Dakota. *Blue Jay* 41:146-154.

[3] HATCH, D. 1982. Bald Eagles are thriving in special Whiteshell site. *Chickadee Notes, Winnipeg Free Press*, 23 April.

[4] KOES, R.F. and P. TAYLOR. 1984. Bald Eagle migration in southeastern Manitoba. *Blue Jay* 42:110-112.

ADDITIONAL RECORDS OF BALD EAGLE PREDATION OF WATERFOWL

ROBERT W. NERO, Manitoba Wildlife Branch, 1495 St. James Street,
Winnipeg, Manitoba. R3H 0W9

Contrary to popular belief, the Bald Eagle is not solely a scavenger, dependent upon dead fish and carrion. The Bald Eagle regularly preys upon injured or grounded waterfowl; as well, it is capable of capturing or knocking down avian prey in flight, including ptarmigan, ducks and geese. As noted in a recent review of this subject, as early as 1880 William Brewster reported Bald Eagles capturing geese in mid-air.[1] Avian hunting methods reported by the same authors included capturing birds "on land by approaching close to the ground . . . on water by flying low between ocean swells . . . diving from a high altitude . . . returning to the surface from an underwater dive . . . to take sitting birds," and capturing birds, including geese, in flight (as reported by Brewster) by "swooping under the prey, turning upside down, and grasping the breast of the prey with its talons."

The same authors described an adult Bald Eagle pursuing a flock of Snow Geese, catching up with the flock, and then selecting an individual goose which it struck in mid-air. The injured goose and the eagle both landed. Except for the intervention of the observers it was believed that the eagle would have killed the goose. This was at Desoto Lake (Iowa-Nebraska). Although the authors had been studying Snow Geese in the field since 1976, they had not previously seen an eagle in extended pursuit of a Snow Goose. However, they add: "On the basis of the intense response of Snow Geese to flying eagles [unlike Canada Geese and ducks, in their experience], predation may occur more often than our observations indicate."

A Bald Eagle-Snow Goose encounter reported in 1983 in Oklahoma was overlooked. J.L. Norman is quoted as follows: "We were observing waterfowl at Ft. Gibson Res., when a Bald Eagle flew out over the lake and knocked a Snow Goose out of a flock of 20. The goose fell into the water but was able to dive beneath the surface twice when the eagle came down to pick it up. Finally the goose tired and the eagle caught and killed it on the water. We watched as the eagle tried four times to lift the goose from the water but failed and had to go back to perch and rest. Finally the eagle gave up."[2]

In 1985, a party of hunters saw an adult Bald Eagle strike and kill a Snow Goose in mid-air near Whitewater Lake in southwestern Manitoba (pers. corr., 15 October 1985, Hal Duncan). Murray Duncan and Jack and Dennis Johnston were travelling west on old Highway No. 3 just south of Whitewater Lake on 13 October 1985. At 1:30 p.m. a flock of six Snow Geese flying at a height of about 91-110 m (100-120 yards) crossed the road about .5 km (1/4 mile) ahead of them. "Suddenly a 'bolt from the blue' descended like a rocket to hit one of the geese in mid-air, apparently killing it instantly. All three observers were astounded at the velocity of the dive, its deadly effect, and the force with which it drove the victim to the ground." The attacker, an adult Bald Eagle, followed the dead goose down to the ground while a second adult Bald Eagle soared overhead. The observers saw the dead goose fall about 69 m (75 yards) from the road. The first eagle landed nearby and then flew up at their approach. When they returned a half hour later one eagle was eating the goose, and the other was standing about 18 m (20 yards) away.

A less spectacular Bald Eagle-Snow Goose interaction was observed by Buddy Chuddy on 10 October 1985 (pers. comm.). At 3:30 p.m. about 6 km (4 mi.) SE of Hodgson, Manitoba, Chuddy saw an adult Bald Eagle flush a feeding flock of 2000-3000 Snow Geese. The flock circled the grain field twice with the eagle in pursuit. Eventually the flock broke up into several groups and in the end the eagle flew off in close pursuit of three geese. Chuddy watched the chase until the birds were out of sight.

An aerial kill of a Mallard by an adult Bald Eagle was observed 32 km (20 mi.) S of Raymond, Alberta on 12 October 1985 by Rod More (pers. comm., 20 November 1985). At about 1:30 p.m. while Rod was driving on a gravel road in a treeless farming area divided by irrigation dikes he saw some Canada Geese and Mallards flush. Than a single duck flew past, apparently separated from one of the flocks; the duck was flying fast in an 128 km (80 mph) wind. Suddenly a black object came diving down upon the duck from above — it had its wings tucked in and looked "like a football." The bird, an adult Bald Eagle, opened its wings at the last minute and struck the duck with extended legs. This was about 27 m (30 yards) ahead of More's vehicle. The duck, driven down at a 45° angle by the blow, struck the ground and bounced 6 m (20 feet). The eagle flew about 64 m (70 yards) into the field, then turned back and landed beside the duck. It flew off as the vehicle approached. The duck, a drake Mallard, was lying on its back with its feet still moving. Its breast was stained almost solid green from having slammed into grass. Upon examining the duck, Rod found three or four shallow holes, bleeding slightly, in the center of its back.

I am grateful to Ken DeSmet for the reference from *American Birds*. Thanks are due Buddy Chuddy, Hal Duncan and Rod More for their observations.

[1] BENNETT, R.S., Jr. and E.E. KLAAS. 1986. Bald Eagle pursues and injures Snow Goose in flight. *Raptor Research* 20(2):75-76.

[2] WILLIAMS, F. 1983. Regional reports. The Winter Season: Dec. 1, 1982-Feb. 28, 1983. Southern Great Plains. *American Birds* 37(3):314-317.

Mallards *Fred Lahrman*

BROAD-WINGED HAWK KETTLES IN BRANDON

JEAN HORTON, 3265 Rosser Avenue, Brandon, Manitoba. R7B 0H1

On the morning of 22 September 1986, six medium-sized chunky hawks were observed in Brandon's west end in an area where they are not generally observed. Upon obtaining binoculars (7 x 35 and 10 x 24) to aid in positive identification, a group of seventeen hawks was observed and identified as Broad-winged Hawks. Several hawks flew directly overhead and two white and two black bands in the tail were clearly observed. Sighting distances varied from very close to approximately 0.75 mi. Observation continued from the deck of a residential home overlooking the Assiniboine Valley, and during a one hour period the following kettles of Broad-winged Hawks were observed:

Time	*Number of Hawks*
10:15 am	17
10:20 am	30
00:25 am	9
10:30 am	9
10:35 am	11
10:40 am	5
10:45 am	10
10:55 am	6
11:10 am	9
TOTAL	106

The total observed was 106 Broad-winged Hawks in a 1 hour period. Each small group of hawks appeared to be repeatedly sailing upwards on thermals and then gliding down to new thermals in a se direction. Because of the high density of houses in the area it was not possible to see the flight path of the hawks for a long distance. It appeared that they crossed the Assiniboine River and travelled se but it was impossible to see if they continued to follow the river.

Weather conditions at the time were recorded as 10° C with wind from the west at 10 knots (about 18 kmph) with good visibility and intermittent sunny periods.

Details of the Brandon sighting were reported to Cal Cuthbert, one of Brandon's most experienced and expert birders, who reported seeing a Broad-winged Hawk that morning in an area where he had not seen one previously.

It is interesting to note that the 22 September observation date is consistent with information on Broad-winged Hawk flights in Ontario and the United States, which are said to peak during the middle of September and often contain thousands of hawks between 11 and 24 September.[1] [2]

[1] HEINTZELMAN, DONALD S. 1982. A guide to Hawk Watching in North America. The Pennsylvania State Univ. Press.

[2] GODFREY, W.E. 1966. The Birds of Canada. National Museum of Canada, Ottawa.

EARLY OBSERVATIONS OF BARRED OWL IN ALBERTA

EDGAR T. JONES, 6115 - 141st Street, Edmonton, Alberta. T6H 4A6

During searches for the Great Gray Owl during the 1950s and 1960s it became evident from observations that the Barred Owl was fairly evenly distributed in Alberta, particularly in the northern forests and the heavily forested foothill regions of Alberta. The following are edited extracts from my notes covering this early period; all except the Tete Jaune, B.C. record are within Alberta.

18 May 1953 Corbett Creek. Secondary wing feather of this species picked up in woods.

18 November 1953 Calling Lake. A specimen sent in had been caught in an Indian trappers set on this date.

15 March 1954 Fawcett, 6 mi. west. A bird was sent in to Dr. A. E. Oeming and myself by R. E. Junck. It was apparently shot by E. Joliffe on this date. I mounted this bird for Dr. Oeming.

11 April 1954 Timeau (north of Ft. Assiniboine). One adult seen and photographed in very heavy mixed woods just off oil cut line.

6 May 1954 Obed. Two badly decayed adult birds picked up from a trappers cabin where they had been pole-trapped earlier in the year.

15 May 1954 Rocky Mountain House, 40 mi. west. Carcass of adult found near a Great Gray Owl's nest - badly decomposed.

11 August 1954 Flatbush. Owl seen at nest box #5 and later a feather found beneath the nest box. As near as could be determined the box had been used for roosting, rather than for nesting.

21 June 1961 Tete Jaune, B.C. Single adult heard calling on side of heavily wooded mountain slope - north side of McBride Road, Hwy. 16.

6 May 1963 Edmonton. Single bird heard calling near house from valley of White Mud Creek. Hooting continued for several days until the bird was seen 11 May in daylight. Bird stayed in area until late July and likely nested.

28 May 1963 Miette River, Jasper National Park. Single bird heard hooting near our camp site last night and observed this day.

28 May 1966 Edmonton. Discovered a nest containing three half grown young; 30 feet up in a dead poplar. Female flushed off when tree was kicked. The three young were photographed and banded. This nest was thought to be the first authentic nesting record for Alberta.

16 April 1968 Edmonton. Another nest in the White Mud Creek valley close to the location of the 28 May 1966 nest was found in a poplar stump 25 feet up. Probably the same pair as in 1966. The nest contained three eggs when located and when checked a few days later contained only one egg which also disappeared.

2 May 1968 Lac La Nonne. An owl heard and then observed on the northwest corner of the lake — no suitable nesting stumps in area.

19 June 1968 Coalspur. A single owl was heard calling eight times from a ridge to the east of the Provincial Government campsite where we were camping.

28 August 1971 Edmonton. A bird was heard calling in White Mud Creek and again on the edge of our yard for approximately two hours.

10 May 1981 Jasper. A single bird was heard calling five times at approximately 9:00 p.m. on the Sky Tram Trail just below Whistler's Hostel.

Young from nest in Whitemud Creek Valley banded 28 May 1966

Edgar T. Jones

ON THE "CONCEALING POSE" OF THE NORTHERN SAW-WHET OWL

SPENCER G. SEALY and KEITH A. HOBSON, Department of Zoology, University of Manitoba, Winnipeg, Manitoba. R3T 2N2

While banding Northern Saw-whet Owls during their fall migrations, Taylor noted that when roosting individuals were approached, often "they straighten up, draw their feathers in tightly to the body, making themselves appear as long and thin as possible, and remain quite motionless."[8] Taylor interpreted this behavior as the owl's attempt to avoid detection. Catling expanded Taylor's description, based also on observations of diurnally roosting Boreal Owls.[3] Catling noted that roosting, undisturbed owls had "a rounded or oval appearance, with the plumage of the breast and upper back fluffed out (not appressed), eyes closed to slits, and head either directed forward or turned over the back." Catling observed that when an owl was disturbed by a human intruder, it stood erect, appressed the plumage of its breast and upper back, and thus appeared oblong.[3] He noted further that the closed wing nearer the intruder was brought forward and raised to its bill, thus exposing its white leading edge as a vertical line, and that the feathers between and somewhat above the eyes were spread. Catling reasoned that the owl was thus disruptively camouflaged, supporting Taylor's interpretation.[3]

Bondrup-Nielsen critically examined the so-called concealing poses described for several species of nocturnal owls.[2] He noted four features common to all of these poses: 1) upright posture, 2) wing nearer the intruder raised to the bill, 3) body plumage appressed, and 4) lateral crown feathers spread. The Eastern Screech-Owl adopts this pose gradually, with its eyes closed to mere slits, suggesting that the pose indeed functions to conceal. However, Bondrup-Nielsen noted that many other species of owls, particularly the Northern Saw-whet Owl and Elf Owl, adopt this pose abruptly, keeping their eyes open thus exposing the white feathers around the eyes.[2] He argued that rather than concealing the owl, these characteristics may actually increase its conspicuousness. He proposed, therefore, the descriptive term "erect posture" to be used with "abrupt" and "gradual" to distinguish between the posture that is adopted abruptly with open eyes backed by white facial markings, and the posture adopted slowly with the eyes reduced to mere slits.[2]

The chance discovery on 27 May 1985 of an adult Northern Saw-whet Owl roosting in the forested dune ridge along the southern shore of Lake Manitoba, Delta Marsh, Manitoba, afforded an opportunity to test Bondrup-Nielsen's ideas on the function(s) of the erect pose of this species, albeit on only one individual.[6]

Observations

At 1000 h the owl was roosting 2.2 m high in a small box elder (*Acer negundo*). We watched it for about 15 min at a distance of 15 m with 8x35 binoculars and a 20x spotting scope. The owl was in a relaxed pose similar to that described by Catling.[3] The plumage of the upper back and breast was fluffed and the eyes varied from being half open to closed. (Figure 1A). The bird faced us but occasionally turned its head to either side. One of us slowly approached the owl. When the moving human was 10 m from moved its left wing forward slightly but did not appress its plumage or become erect (Figure

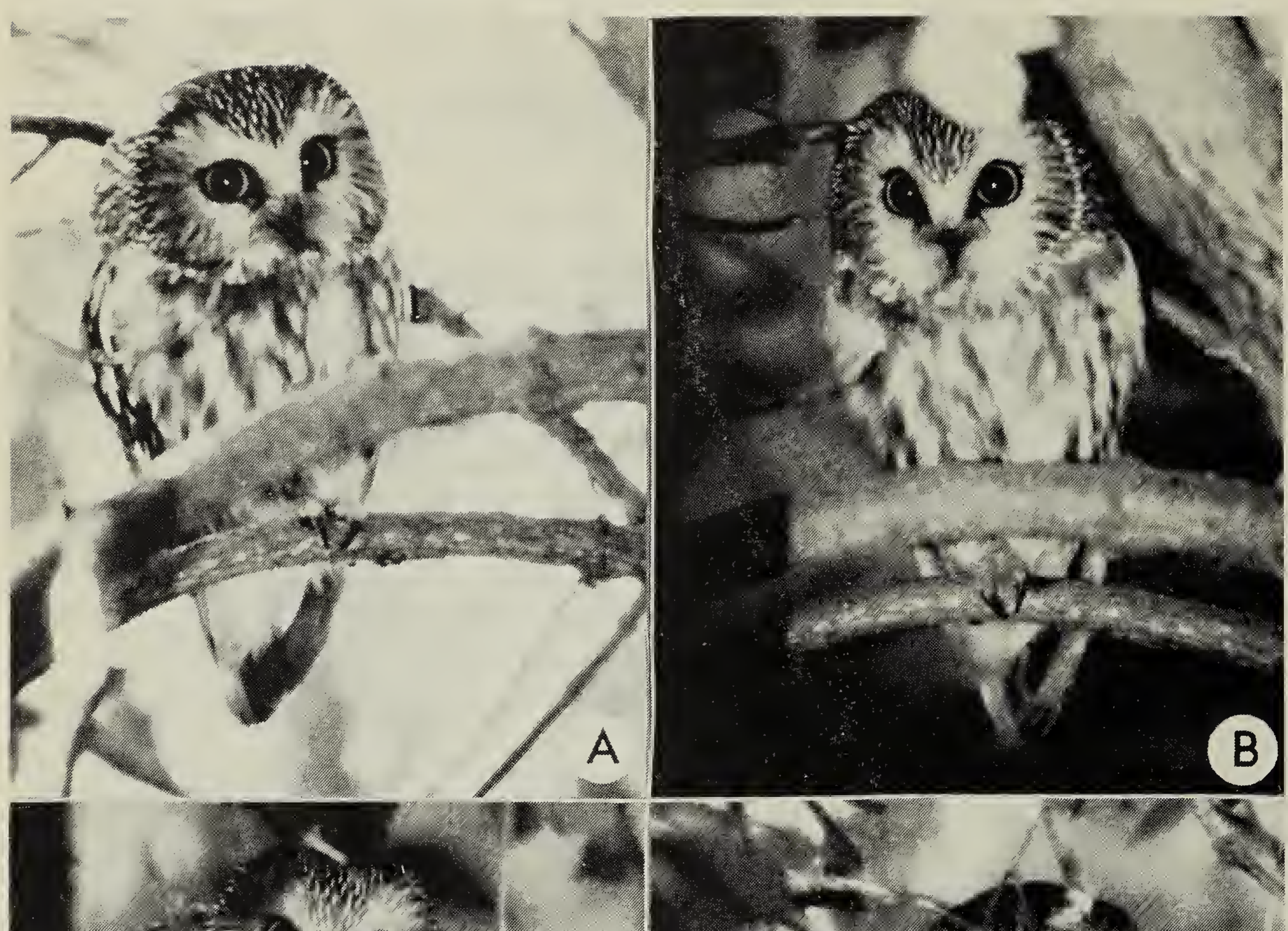


Figure 1. Poses of the Northern Saw-whet Owl A. *normal roosting;* B. *apparently perceiving distant intruder;* C. *erect;* D. *"fright" response when watching mounted Great Horned Owl*

1B). The observer retreated and we waited approximately 5 min until the owl had again apparently become fully relaxed. Both of us then approached the owl slowly. When we were 8 m from the owl, it looked at us with fully open eyes and then looked away. This was repeated as we approached to within 4.5 m. At 2 m the owl gradually became erect and compressed its feathers. Its wing was not raised and we did not discern any raising of the crown feathers. We retreated and left the area for approximately 1 hour. When we approached the owl again it became erect abruptly, when we were 4 m from it, and shifted slightly to one side (Figure 1C). Its plumage was appressed and its eyes were fully open. It maintained this pose as we approached to within approximately 2 m, where we did not observe any spreading of the crown feathers or increase in white about the eyes. We again retreated; one of us visited the owl a third time about 1 hour later. The erect posture was again assumed when the observer approached to within 4 m. The posture was the same as we had observed on earlier visits but this time the plumage was appressed more gradually. From 1300 to 1500 h we watched the owl from our original vantage point 15 m away. The bird was relaxed during this time, with closed or half-opened eyes. It did not respond notably to several passerine birds that approached to within 1 m of it or that vocalized nearby.

At 1530 h we investigated the owl's response to a mounted Great Horned Owl, a predator known to take smaller owls.[1] [4] The covered owl was placed on the ground 5 m from the roosting saw-whet owl. After a few minutes, when the owl apparently was relaxed, we removed the cover from the mount using a 3-m pole. It took about 30 seconds before the roosting owl looked in the direction of the mounted owl. Upon seeing the Great Horned Owl, it immediately opened its eyes fully, stretched up and then lowered its head in a hunched up position and fluffed up the feathers on the top of the head, upper breast and back (Figure 1D). The bird bobbed its head up and down and from side to side, similar to the "fright" reaction Catling described for this species when human intruders approached to within 1 m.[3] It reacted this way for about 2 minutes until we removed the mount. The posture assumed by the saw-whet on seeing the mounted owl increased its apparent body size. The saw-whet relaxed again within 5 minutes and remained at the roost until between 2100 hr and 2130 hr.

Discussion

Our observations support Bondrup-Nielsen's contention that the erect pose assumed by the Northern Saw-whet Owl does not function to conceal. Catling believed that the concealing pose occurred when owls were disturbed from a distance and then approached more closely.[3] Although we were clearly visible to the owl over our entire approach of 15 m, the erect posture was only assumed when we came to within 4 m. At greater distances the owl looked at us several times, obviously aware of our approach, but did not appress its plumage or remain motionless. The erect posture thus was assumed only after it should have been fairly evident to the owl that it had been discovered. Furthermore, when the erect pose was assumed it was done abruptly and with a slight sideways movement. If the pose was meant to conceal one would expect it to be assumed gradually and at the first approach of an intruder. Alternatively, the normal roosting pose of the Northern Saw-whet Owl may be the most concealing because that is when the need for protection presumably is greatest.

If the behavioral repertoire of the Northern Saw-whet Owl included a concealing pose, then one might expect an individual to assume it when it first perceived a predator such as the Great Horned

Owl. Instead, a highly conspicuous "fright" reaction was observed. This reaction also occurred at a much greater distance than that reported by Catling for human intruders (5 m vs 1 m) and was never observed when we approached closer than 2 m to the owl.3 This suggests that the nature of the owl's response depends upon the extent to which it perceives the intruder or predator as a threat. Bondrup-Nielsen (*in litt.*, 1985) pointed out to us that the "fright" reaction we observed probably was predictable since the Great Horned Owl appeared "out of nowhere" and instantly.

Although it seems unlikely that the erect posture adopted by this species functions to conceal, it is not clear just what purpose, if any, it serves. It is possible that both the "erect" pose and the "fright" response are related behaviors that prepare the owl for escape or combat. Scherzinger analyzed the reactions of owls to predators in Europe. He interpreted his findings in terms of conflicting behaviors.[7] The conflict between staying or fleeing has been resolved by protective coloration, enhanced by the "erect posture". The tendency to flee or attack is revealed by a threatening posture, and the "normal" perching posture actually conceals. James and Nash reported that flightless Northern Hawk-Owls assumed an upright posture, with eyes open.[5] They believed, as Bondrup-Nielsen did with *Aegolius* owls, that the widely open eyes of the hawk-owls suggest that this pose is not entirely concealing, but is perhaps a "fright" response to a disturbance. They compared this response to screech owls that close their eyes to narrow slits when apparently concealing themselves.[9] James and Nash noted also that the upright posture was assumed only by hawk-owls less than one month old, and not by adults.[5] They speculated that this behavior has been lost among adult hawk-owls which are active largely in daylight, in contrast to the nocturnal owls that Bondrup-Nielsen discussed.[2] James and Nash suggested that the loss of this behavior might be expected if it served to conceal the bird, but if it were only a fright reaction the adults might also be expected to assume it.[5]

In summary, it appears that there are three components to the postures we observed in the saw-whet owl: concealment, threat, and fright. Concealment may be accomplished by the posture assumed during normal diurnal roosting (see also Scherzinger[7]). Upon perceiving a predator, the bird may assume a threatening posture, letting the potential predator know that it has been seen. The erect and fright postures may be assumed when the owl has perceived danger but has not yet established its nature.

Acknowledgments
James V. Briskie located the roosting owl that we observed in this study. Wolf Heck prepared the photographs from the original colored slides. Soren Bondrup-Nielsen, R. Wayne Nelson, and Robert W. Nero read the manuscript and made valuable suggestions for its improvement. Our work in the dune-ridge forest was funded by the Natural Sciences and Engineering Research Council of Canada (A9556). This paper is contribution number 124 of the University of Manitoba Field Station (Delta Marsh).

[1] BLUHM, C.K. and E.K. WARD. 1979. Great Horned Owl predation on a Short-eared Owl. *Condor* 81:307-308.

[2] BONDRUP-NIELSEN, S. 1983. Ambivalence of the concealing pose of owls. *Can. Field-Nat.* 97:329-331.

[3] CATLING, P.M. 1972. A behavioral attitude of Saw-whet and Boreal owls. *Auk* 89:194-196.

[4] CRAIGHEAD, J.J. and F.C. CRAIGHEAD, Jr. 1956. Hawks, owls and wildlife. Wildlife Mgmt. Inst. and Stackpole Co., Harrisburg, PA. 443 pp.

[5] JAMES, R.D. and S.V. NASH. 1983. An upright posture of young Northern Hawk-Owls. *Ont. Field Biol.* 37:90-93.

[6] MACKENZIE, D.I. 1982. The dune-ridge forest, Delta Marsh, Manitoba: overstory vegetation and soil patterns. *Can. Field-Nat.* 96:61-68.

[7] SCHERZINGER, W. 1971. Zum Feindverhalten einiger Eulen (Strigidae). *Z. Tierpsychol.* 29:165-174.

[8] TAYLOR, R.R. 1962. Fall Saw-whet Owl concentrations in Ontario. *Blue Jay* 20:118-119.

[9] WALKER, L.W. 1974. The book of owls. A.A. Knopf, New York, NY. 256 pp.

BIRDING AT DORE LAKE, SASKATCHEWAN

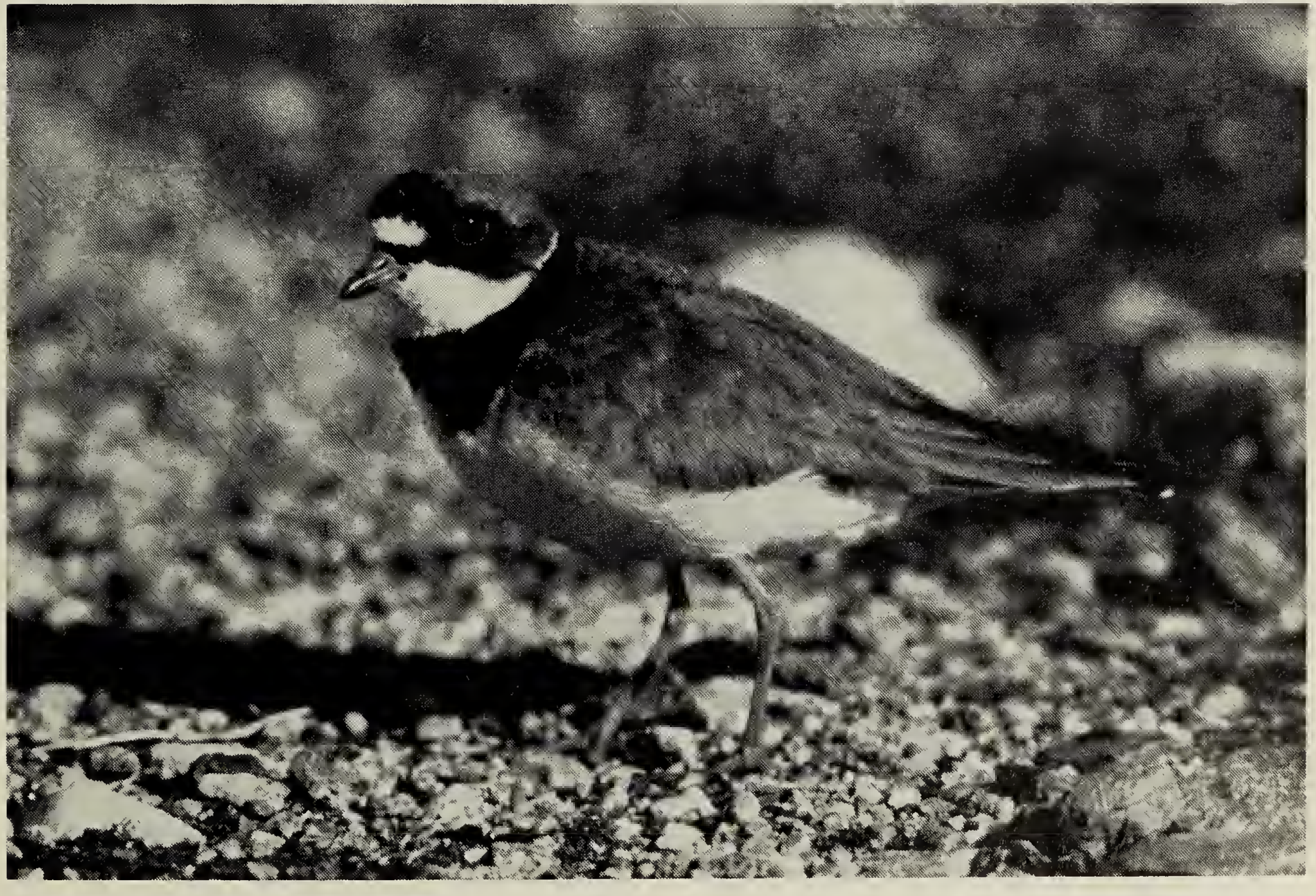
RON JENSEN, 1027 King Crescent, Saskatoon, Saskatchewan. S7K 0N9

This note is to report some interesting birds found at Dore Lake, Saskatchewan between 29 May and 22 August 1986.

The weather during the period was variable from sunny and calm to overcast and blustery. The main lake was ice-free on 28 May with the bays ice-free some time prior to that date.

Osprey were seen at various times during the summer, usually flying just offshore. An Osprey came to fish near our boat while we were analysing the day's catch on 7 July.

Sandhill Cranes were heard overhead 17 June.



Semipalmated Plover, McConnell River *G.W. Beyersbergen*

Ruddy Turnstone *Fred Lahrman*

A Semipalmated Plover was observed on the graveled road leading to the Dore Lake Resources Office on 3 June. A single bird was seen feeding along the water's edge at Tower Beach 22 August.

An Upland Sandpiper, a very nervous bird, was seen briefly at the Dore Lake Resources Office also 22 August.

Four Ruddy Turnstone were found on a rocky island in Bazil Bay 4 June.

Pectoral Sandpipers fed in a flooded grassy area near the Dore Lake Resources Office on 11 August.

A Pomarine Jaeger followed the Michel Point Lodge owner across Dore Lake as he returned from a fishing trip 23 July.

One Long-tailed Jaeger was seen briefly flying over open water 31 July.

Sabine's Gulls were seen on five occasions in groups of 2, 5, 10 and singly in open water on the main lake between 29 May and 3 June.

A single singing male Lazuli Bunting was observed by a Michel Point cottage owner who later identified the bird from a Peterson field guide.

A male Le Conte's Sparrow was heard singing and later observed in a small marsh area near the airport 2 June.

Four long-billed shorebirds were seen overhead on 30 May south of Saskatoon Island. Although they were at close range, a positive identification was not made. They appeared to be Long-billed Curlews, which I have observed in southern Saskatchewan. If they were indeed Curlews, Dore Lake is north of their normal range. Godfrey, in the revised edition of Birds of Canada, mentions an occurrence in the Northwest Territories.

SHARP-TAILED GROUSE DANCING IN JANUARY

RICHARD PICKERING, 1320 Grandview Street W., Moose Jaw, Saskatchewan. S6H 6H8 and BEN CRUISE, 1204 Hochelaga Street W., Moose Jaw, Saskatchewan. S6H 2J4

On 31 January 1987 at 0845 h, four Sharp-tailed Grouse were observed roosting in a tree at the northeast corner of the Last Mountain Lake Wildlife Management Unit. We stopped to take some photographs, and when the engine was stopped we could hear more grouse. Several grouse were found dancing on a lek. The mild weather (0°C) may have contributed to this early occurrence of breeding behavior, and we assumed that the grouse roosting in the tree were females watching the dancing males.

EDITOR'S NOTE: Sharp-tailed Grouse have been observed dancing at all times of the year during suitably warm weather. Although the males are observed displaying it is not known whether the female become receptive and begin to search out the males.

Sharp-tailed Grouse dancing *Wayne Shiels/Four Winds Prairie Photography*

Short-eared Owl near Saskatoon Wayne Shiels/Four Winds Prairie Photography

RAPTOR RESEARCH FOUNDATION ANNUAL MEETING

The Raptor Research Foundation, Inc. is an organization whose purpose is to stimulate the dissemination of information concerning raptorial birds among interested persons, worldwide, and to promote a better public understanding and appreciation of the value of birds of prey. Towards this objective, their annual meeting is being held 28-31 October 1987 at Boise, Idaho. The feature symposium is on the migration of raptors in western North America. This is followed by general paper and poster sessions. For additional information contact **Rich Howard, U.S. Fish and Wildlife Service, 4696 Overland Road, Rm. 576, Boise, Idaho, U.S.A. 83705**, or telephone **208-334-1888.**

Swainson's Hawk Lawrence Baschak

Ferruginous Hawk *Wayne Lynch*

BLUE JAY TAKES DEAD SHREW

JAMES SHILLIDAY, Shoal Farm,
Woodlands, Manitoba. R0C 3H0

Our two housecats are reasonably well fed; still, they often go out hunting. Usually they bring their catch home, depositing mice of various kinds on our patio or doorstep. One Saturday afternoon in October 1986, I looked out the window and noticed that a fairly large shrew had been left on the patio. At this very moment, a Blue Jay flew down and pecked at the dead shrew. Apparently it was to the jay's liking, for it seized the shrew in its bill and flew away with it.

In a discussion with Bob Nero, he suggested that any large shrew in our area is likely to be the fairly common Short-tailed Shrew. Notable for its scent glands, it is seldom eaten by even poorly-fed cats. Birds, relying less on scent, may find shrews perfectly palatable. Great Gray Owls and other owls, for example, regularly eat shrews. Recently, a Gray Jay was observed capturing a small mammal, possibly a shrew.[2] Publication of this record suggests that this is a relatively rare trait in jays.

To my surprise, the omnivorous Blue Jay will occasionally prey on small mammals. Bob Nero tells me that in 1897, biologist Foster Beal reported that a captive Blue Jay "showed a marked fondness for mice, and would devour them apparently with great relish."[1] Presumably these were dead mice. In 1918, G. gill saw a Blue Jay attempting to capture a live mouse, pecking at it as it ran. The mouse darted into a shed and escaped even after a second Blue Jay joined in the chase.[1]

---

[1] BENT, A.C. 1964. Life histories of North American jays, crows and titmice. Part 2. Reprinted, Dover Publications, Inc. N.Y. 214 pp.

[2] LESHER, F. and J. LESHER. 1984. Gray Jay takes live mammal. *Loon* 56:72-73.

Blue Jay *Wayne Shiels/Four Winds Prairie Photography*

MANITOBA WHOOPERS — 40 YEARS AGO

HAROLD E. WATSON, 220 Franklin Street, Brandon, Manitoba. R7A 5P3

The following note is excerpted from a letter written 28 March 1974 to the editors of Wild Wings and Chickadee Notes. The belated report was made then due to recent (at that time) reports of Whooping Cranes "in the Winnipeg area, and out towards Rock Lake" being "almost totally discounted . . ."

The sighting I had belatedly written about, "occurred about the 10th of May, in either 1944, or 45, and was while 7 or 8 of us CPR Employees were eating lunch outside the Shops [in Brandon, Manitoba].

We had just started eating our lunches when I heard an unusual crane-like cry and upon looking up, I was amazed to see 5 large glistening white birds, with outstretched wings soaring in small circles at a very great height.

The other fellows soon looked to where I pointed and saw them too, and as we ate, they circled and called, no doubt excited by the sight of the Assiniboine below. We could see that they were high, because a plane from #2 Flying Field flew below them and was only about half the height of the birds.

We, in spite of the height, could see the black tips on their wings and their legs trailing, necks outstrectched and long beaks.

They circled off on a course that would be about north-east by north, and we could hear them until they were almost out of sight. .....

I am sure that all of the group who saw them, will never forget seeing them, as they sure were large; and sure were white, except for wing tips and legs, and they sure could make themselves heard.

Bill [W.H. Armstrong] and I, and no doubt the others [Jack Irving, Scottie Manson, Torchy Crawford, Bill Vellam and Herman Phelps, since deceased] too, realised how fortunate we were to see them, for about those years their numbers were down to about 17, so we almost saw one third of all there were.

. . . . . In a recent telephone conversation with Bill, he stated that the sighting was made in 1944. . . .

Since writing that previous letter, I heard from a now deceased Cousin that her Uncle, the late Dr. Robert Goodwin had not only seen them, but had shot them. Dr Goodwin, a Brother of my Great Uncle Alex, ... like his brothers was also a noted hunter having been hunting at an early age in I believe, the Amprios area northwest of Ottawa." . . . . .

Whooping Cranes at Aransas N.W.R.
J. Sutherland

SASKATCHEWAN CHRISTMAS MAMMAL COUNT — 1986

Compiled by WAYNE C. HARRIS, Box 414, Raymore, Saskatchewan. S0A 3J0

A total of 66 counts were received this year reporting 37 species during the count period. Both the number of counts and the number of species are all time highs over 62 counts in 1985 and 34 species in 1984.

In setting the new species high four new species were added to the Chirstmas Mammal Count list. Both Short-tailed Shrew and Masked Shrew were seen at Fort Qu'Appelle, while a Pigmy Shrew was seen at Prince Albert. At Squaw rapids a Pine Marten was seen. All of these species do occur regularly (and in the case of the Masked Shrew are common) in the province but are not that frequently encountered. There were several rare or uncommon species, with the Fox Squirrels again being found at Regina and Weyburn; two Gray Squirrels were at Endeavour and a Fisher was seen at Prince Albert National Park.

The most frequently reported species was White-tailed Deer (54 of 66 counts) followed by Snowshoe Hare (47) and Coyote (44). White-tailed Deer populations appear to be up over last year while Mule Deer have declined, especially in the southwest. Snowshoe Hare populations continue to increase from their low in 1984. Although Moose were reported with the same frequency as last year, their numbers appear to be up with Loon Lake

Ermine *Lorne Scott*

reporting 23 (compared to 11 in 1985) and Squaw Rapids having 12 (2 in 1985). Predator populations appear to be stable — with Lynx again unreported. All other species appeared stable except that both prairie dwelling lagomorphs — the White-tailed Jack Rabbit and Nuttall's Cottontail — were somewhat less common. The very mild weather of this and the past winter are probably the primary factors for the increases in the ungulates.

For weather, coverage and participants on these counts please refer to the Christmas Bird Counts found in this issue.

Symbols found in the tables are as follows:

* identified by tracks with estimated number of individuals in parentheses
+ seen during count period but not on count day
L active lodges or huts seen with number in parentheses
N nests found with number seen in parentheses
D fresh diggings seen
d freshly dead animals seen
S odour detected
H heard with number in parentheses

Porcupine *Wayne Shiels/Four Winds Prairie Photography*

Table 1-1. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LOCALITY & DATE SPECIES	ABERNETHY-KATEPWA LAKE January 02	ASSINIBOIA January 03	BANGOR December 31	BIGGAR December 29	BIRCH HILLS December 20	BROMHEAD January 01	CROOKED LAKE December 27	DALMENY December 26	DUVAL December 28	EASTEND December 27
SHORT-TAILED SHREW										
MASKED SHREW										
PYGMY SHREW										
SHREW species										
RACOON										
RED FOX	+	2			1		*(1)	1	1	2
COYOTE	H	2	H(3)	2	1	*(1)	*(1)		3	2
GRAY WOLF										
PINE MARTEN										
FISHER										
ERMINE					*(5)		*(1)			
LEAST WEASEL	+									
LONG-TAILED WEASEL			1		*(1)		*(1)			
WEASEL species						*(1)			*(2)	
MINK							*(1)			
RIVER OTTER										
STRIPED SKUNK									*(1)	
BADGER										
WHITE-TAILED JACKRABBIT		4	4	*(5)	*(2)	*(4)	*(5)		1	
SNOWSHOE HARE	*(5)		*(4)	1	1		*(8)		1	2
NUTTALL'S COTTONTAIL										
RICHARDSON'S GROUND SQUIRREL										
FOX SQUIRREL										
RED SQUIRREL	+				4		9			
GRAY SQUIRREL										
N. FLYING SQUIRREL										
BEAVER			*(1)				*(1)		L(2)	
DEER MOUSE										
MEADOW VOLE										
RED-BACKED VOLE										
VOLE species										
MOUSE species			2	*(5)	*(7)	*(5)	*(5)		*(9)	
MUSKRAT	+		1		*(1)		1	1		*(1)
NORWAY RAT										
HOUSE MOUSE										
PORCUPINE	+		1		*(1)		*(1)		2	1
ELK										
MULE DEER		12								14
WHITE-TAILED DEER	*(1)	12	7	*(10)	63		*		*(7)	4
DEER species										
MOOSE										
PRONGHORN		10								
TOTAL SPECIES	8	6	9	5	10	7	13	1	10	5

Table 1-2. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

ENDEAVOUR December 25	FORT QU'APPELLE December 20	FORT WALSH December 20	GARDINER DAM December 22	GLENGARIFF SD (Kelvington) January 01	GOOD SPIRIT LAKE December 21	GOVENLOCK December 21	GRAND CENTRE - PIERCELAND December 26	GRAVELBURG December 24	HENDON January 01	**LOCALITY & DATE** **SPECIES**
	+									SHORT-TAILED SHREW
	+									MASKED SHREW
		1			*(3)		*(6)			SHREW species
	+									RACOON
										PYGMY SHREW
*(1)	1	*(1)		*(1)						RED FOX
1	+	11	1		H(4)	1			*(2)	COYOTE
										GRAY WOLF
										PINE MARTEN
										FISHER
										ERMINE
*(1)										LEAST WEASEL
	+	1								LONG-TAILED WEASEL
				*(2)	*(2)		*(1)			WEASEL species
	+	*(1)			*(1)	1				MINK
										RIVER OTTER
	+				*(1)					STRIPED SKUNK
					*(1)	D(4)				BADGER
	+	1			*(10)					WHITE-TAILED JACKRABBIT
*	1	*(6)	*(1)	1	*(20)		*(20)		*(15)	SNOWSHOE HARE
		17	1			10				NUTTALL'S COTTONTAIL
										RICHARDSON'S GROUND SQUIRREL
										FOX SQUIRREL
3	5	62		*(1)	3		H(4)			RED SQUIRREL
2										GRAY SQUIRREL
					1					N. FLYING SQUIRREL
					L(2)					BEAVER
	+									DEER MOUSE
										MEADOW VOLE
	+				1					RED-BACKED VOLE
						1				VOLE species
		3	3	1	*	*	*(10)			MOUSE species
	2				*(3)	1				MUSKRAT
										NORWAY RAT
										HOUSE MOUSE
*(1)	+	1			*(3)		*(1)			PORCUPINE
		*(11)								ELK
		29	14			36				MULE DEER
*(1)	1	112	2		4	4		6	*(6)	WHITE-TAILED DEER
							*(8)			DEER species
*(3)		1								MOOSE
						31				PRONGHORN
9	16	15	6	5	16	11	7	1	3	TOTAL SPECIES

Table 1-3. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LOCALITY & DATE **SPECIES**	HERBERT December 23	HUMBOLDT December 26	INDIAN HEAD December 28	KAMSACK January 09	KENASTON December 24	KINDERSLEY December 26	KUTAWAGAN LAKE December 30	LA RONGE December 26	LAST MOUNTAIN L.W.M.U. December 27	LEADER December 29
SHORT-TAILED SHREW										
MASKED SHREW										
SHREW species		+					+			
RACOON										
PYGMY SHREW										
RED FOX	+(1)	+	+(2)		+	+(1)	+	+(2)	2	
COYOTE		+	3	H	+(5)		2		3	
GRAY WOLF										
PINE MARTEN										
FISHER										
ERMINE								*(7)	1	
LEAST WEASEL					*(1)					
LONG-TAILED WEASEL		+			+(3)					
WEASEL species				1			*			
MINK		+			*(1)			*(1)	*	
RIVER OTTER										
STRIPED SKUNK		+			*(1)		*		*(1)	
BADGER		+			1		D(1)		D(2)	
WHITE-TAILED JACKRABBIT	*(5)	1		4	1	2	3		4	2
SNOWSHOE HARE		*					*	*(25)	*	2
NUTTALL'S COTTONTAIL	4				*(20)					
RICHARDSON'S GROUND SQUIRREL										
FOX SQUIRREL										
RED SQUIRREL		+	2					3		
GRAY SQUIRREL										
N. FLYING SQUIRREL										
BEAVER				*					L(1)	1
DEER MOUSE									1	
MEADOW VOLE		1							1	
RED-BACKED VOLE										
VOLE species										
MOUSE species	*(2)	d(2)			*		*	*(8)		
MUSKRAT				*	*(1)			1	L(18)	
NORWAY RAT							*			
HOUSE MOUSE							*			
PORCUPINE	1	1			*(5)		2		2	
ELK				*						
MULE DEER	1					*(1)				12
WHITE-TAILED DEER	1	+	*(3)	3	8	*(3)	*		7	20
DEER species										
MOOSE				2				+		
PRONGHORN										
TOTAL SPECIES	7	12	5	8	13	4	13	8	14	6

Table 1-4. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LIVELONG January 02	LOON LAKE December 27	LOVE - TORCH RIVER December 30	LUSELAND December 24	MELFORT January 03	MOOSE JAW December 26	MOOSE MOUNTAIN P.P. December 30	NAICAM December 22	NOKOMIS January 01	PIKE LAKE January 03	**LOCALITY & DATE** **SPECIES**
										SHORT-TAILED SHREW
										MASKED SHREW
*(6)										SHREW species
										RACOON
										PYGMY SHREW
*(1)	+	+(2)		*	*(1)	*	*(2)	2		RED FOX
*(11)		*(5)	*(6)	*(4)	*(4)				3	COYOTE
										GRAY WOLF
										PINE MARTEN
										FISHER
							*(7)	1		ERMINE
*(2)			1							LEAST WEASEL
*(3)						*(1)				LONG-TAILED WEASEL
				1	*(2)		*(5)		*(2)	WEASEL species
*(1)					*(6)		*(1)			MINK
										RIVER OTTER
			*(2)		*(2)				5(1)	STRIPED SKUNK
										BADGER
1		*(1)	2		*(15)			*	1	WHITE-TAILED JACKRABBIT
		*(12)	*(8)	10	2	*(3)	*(25)		1	SNOWSHOE HARE
										NUTTALL'S COTTONTAIL
										RICHARDSON'S GROUND SQUIRREL
										FOX SQUIRREL
*(3)	1	6		6		4	1		*(4)	RED SQUIRREL
										GRAY SQUIRREL
										N. FLYING SQUIRREL
					3				*(1)	BEAVER
										DEER MOUSE
		1			1					MEADOW VOLE
										RED-BACKED VOLE
										VOLE species
*(6)		2				*(2)	*(5)		*(20)	MOUSE species
					2					MUSKRAT
										NORWAY RAT
										HOUSE MOUSE
1							1			PORCUPINE
		$				*(1)				ELK
*(7)	17		*(9)							MULE DEER
*(20)	15	8	*(13)		*(10)	*(4)	*(10)		8	WHITE-TAILED DEER
									*(20)	DEER species
	23	1				*(2)				MOOSE
										PRONGHORN
12	4	10	8	5	11	8	8	1	10	TOTAL SPECIES

Table 1-5. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LOCALITY & DATE **SPECIES**	PINE CREE R.P. (Eastend) December 31	PRINCE ALBERT January 01	PRINCE ALBERT NAT. PARK December 19	QU'APPELLE DAM December 23	RAYMORE December 26	REGINA December 26	ROSCOMMON SD (Kelvington) December 21	ROUND LAKE January 2	SQUAW RAPIDS December 18
SHORT-TAILED SHREW									
MASKED SHREW									
SHREW species			*(1)		*			*	
RACOON								1	
PYGMY SHREW		$							
RED FOX			2	*(3)	1	1		*(2)	*
COYOTE	H(4)		*(3)	*(6)	4	1	*(3)	2	3
GRAY WOLF			*(4)						*(2)
PINE MARTEN									1
FISHER			1						
ERMINE								*(30)	
LEAST WEASEL								*(12)	*
LONG-TAILED WEASEL					*			*(4)	
WEASEL species	*(3)		*(2)	*(1)	*	*(1)			*(5)
MINK			*(3)	*(2)	*(1)			2	*(1)
RIVER OTTER			*(5)						*
STRIPED SKUNK					5(1)		*(1)		
BADGER									
WHITE-TAILED JACKRABBIT				*(4)	7	11	*(1)	*(3)	*
SNOWSHOE HARE			*(2)	*(6)	3	4	*(1)	1	2
NUTTALL'S COTTONTAIL	*(14)								
RICHARDSON'S GROUND SQUIRREL									
FOX SQUIRREL						*(1)			
RED SQUIRREL			22		1	10		2	38
GRAY SQUIRREL									
N. FLYING SQUIRREL								1	
BEAVER							*(2)	1	1
DEER MOUSE					1				
MEADOW VOLE					2				
RED-BACKED VOLE									
VOLE species			*(10)						
MOUSE species	*(10)		*(10)				*(1)	*	*(15)
MUSKRAT			*(3)	*(1)				6	1
NORWAY RAT									
HOUSE MOUSE									
PORCUPINE	3			1	1		$		1
ELK			*(20)						*(6)
MULE DEER	24			2					
WHITE-TAILED DEER		1		1	3	*(1)	*(4)	3	10
DEER species			*(12)						
MOOSE			*(1)						*(12)
PRONGHORN									
TOTAL SPECIES	6	2	16	10	13	8	8	15	18

Table 1-6. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

SKULL CREEK December 26	ST. WALBURG December 26	TISDALE December 28	SASKATCHEWAN RIVER FORKS January 03	SASKATOON December 26	SCOTT January 04	SPIRITWOOD December 28	TOMPKINS January 02	WALDHEIM December 26	**LOCALITY & DATE** **SPECIES**
									SHORT-TAILED SHREW
									MASKED SHREW
									SHREW species
									RACOON
									PYGMY SHREW
*(1)		*(1)	*(1)						RED FOX
*(3)	*(3)	*(1)					2		COYOTE
									GRAY WOLF
									PINE MARTEN
									FISHER
		*(1)							ERMINE
									LEAST WEASEL
1									LONG-TAILED WEASEL
									WEASEL species
*(2)				1					MINK
									RIVER OTTER
		D(1)							STRIPED SKUNK
					1				BADGER
3		1	*(1)	1	*(5)		1		WHITE-TAILED JACKRABBIT
	10	4	*(3)	4	*(5)		2	*(20)	SNOWSHOE HARE
6									NUTTALL'S COTTONTAIL
									RICHARDSON'S GROUND SQUIRREL
									FOX SQUIRREL
	2		*(2)	4		2		1	RED SQUIRREL
									GRAY SQUIRREL
									N. FLYING SQUIRREL
1								L(2)	BEAVER
									DEER MOUSE
*				2					MEADOW VOLE
									RED-BACKED VOLE
									VOLE species
	3		*(2)		*(3)				MOUSE species
					D(1)				MUSKRAT
									NORWAY RAT
									HOUSE MOUSE
*(1)				1			1		PORCUPINE
	12								ELK
10							43		MULE DEER
15	5	*(7)	*(1)	9			7	3	WHITE-TAILED DEER
				3					DEER species
	1								MOOSE
							68		PRONGHORN
11	6	6	8	8	5	1	7	4	TOTAL SPECIES

Table 1-7. SASKATCHEWAN CHRISTMAS MAMMAL COUNTS

LOCALITY & DATE **SPECIES**	WARMAN December 26	WAUCHOPE December 26	WEYBURN December 20	WHITE BEAR December 26	WHITEBEECH December 26	WOLSELEY SOUTH December 28	WOOD MOUNTAIN December 23	YORKTON December 29	**TOTAL COUNTS PER SPECIES/GROUP**
SHORT-TAILED SHREW									1
MASKED SHREW									1
PYGMY SHREW									1
SHREW species			*(2)						10
RACOON			*(1)						3
RED FOX	+	1	*(4)		+			*(1)	39
COYOTE	*(1)	1		5					44
GRAY WOLF									2
PINE MARTEN									1
FISHER									1
ERMINE	1				+				8
LEAST WEASEL			*(4)						7
LONG-TAILED WEASEL					+				13
WEASEL species		*(5)	*(5)					*(1)	20
MINK			+					*(1)	21
RIVER OTTER									2
STRIPED SKUNK			+		+			*(1)	16
BADGER									7
WHITE-TAILED JACKRABBIT	1		2	3				*(10)	40
SNOWSHOE HARE	2	*(4)	1		*(100)	1		1	47
NUTTALL'S COTTONTAIL				+					8
RICHARDSON'S GROUND SQUIRREL			1						1
FOX SQUIRREL			*(5)						2
RED SQUIRREL					+				30
GRAY SQUIRREL									1
N. FLYING SQUIRREL									2
BEAVER					L(2)				14
DEER MOUSE	+	*(7)							5
MEADOW VOLE		1	1	1					10
RED-BACKED VOLE									2
VOLE species									2
MOUSE species			*(15)		+			*(10)	33
MUSKRAT									17
NORWAY RAT	15								2
HOUSE MOUSE									1
PORCUPINE							1	*(1)	28
ELK									7
MULE DEER			*(4)	128					17
WHITE-TAILED DEER	+	22	*(2)	3	*(20)		2	*(5)	54
DEER species									4
MOOSE					*(1)				11
PRONGHORN									3
TOTAL SPECIES	8	7	14	6	10	1	2	9	

Red Fox *Wayne Lynch*

AN ACTIVE PRAIRIE RATTLESNAKE DEN TAKEN OVER BY FOXES

MALCOLM STARK, Lethbridge Community College, Lethbridge, Alberta. T1K 1L6

Although prairie rattlesnakes are found in northern latitudes, they cannot withstand exposure to extremes of heat or cold. In southern Alberta, the last refuges of prairie rattlesnakes are the deep, dry ravines called coulees. One of these coulees, dubbed Rattlesnake Coulee by the farmer who owns the land, lies 3 km south of Lethbridge. The area receives from 30 to 40 cm of precipitation annually, but only 22 cm fall during the growing season. Temperatures can range from 40°C to -42°C. Hence, rattlesnakes must have access to shade to prevent overheating in summer, and hibernacula (dens) below the frostline to escape freezing in winter. Depth and dryness are two essential requirements of a suitable hibernaculum (rattlesnakes will not hibernate in areas subject to flooding).

Hibernacula in Rattlesnake Coulee are all found on south-facing slopes and include sinkholes, subterranean cracks, and occasionally, vacated burrows of badgers (rattlesnakes do not burrow). Since 1983 I have been observing prairie rattlesnakes occupying one specific, active (sinkhole) hibernaculum. Although the total number of rattlesnakes returning to the hibernaculum for the winter of 1985-1986 was not recorded, their coiled imprints were present in the sandy soils around its entrance (no other species of snakes used the hibernaculum). Rattlesnakes are cold-blooded and depend on external sources for heat. Therefore, before their retreat underground for the winter, they often bask in the sun at hibernaculum entrances for a few hours on warm days.

In the spring of 1986 (before snowmelt), the immediate area around the hibernaculum entrance was heavily trodden and denuded of most vegetation (heavy sage brush originally encircled the entrance); the hibernaculum was occupied by a fox family (an adult male, an adult female and 3 young). No rattlesnakes were observed leaving the hibernaculum during the spring, nor were any found in the general vicinity of the hibernaculum during the summer. It was not known for certain what happened to the rattlesnakes emerging from the hibernaculum. The author was aware of only one exit from the hibernaculum and it is probable that the rattlesnakes were killed and eaten by the foxes when they emerged.

Prairie rattlesnakes are an integral part of the prairie ecosystem and are important natural predators of ground-nesting birds and rodents. However, from the information collected thus far, it appears that the survival of prairie rattlesnakes is at best precarious in southern Alberta. In addition to the natural predators (coyotes, badgers, raptors, bullsnakes, and foxes, which are increasing in number in southern Alberta), loss of native habitat due to widespread cultivation and irrigation, and indiscriminate killings by man are taking their toll on the numbers of rattlesnakes. The summer of 1986 was the first time that the farmer who owns Rattlesnake Coulee did not see a rattlesnake (he is 60 years old, and was born and raised within a stone's throw of the coulee). It was also the first time since the study began that the author did not see a rattlesnake.

---

[1] STARK, M.A. 1985. A simple technique for trapping prairie rattlesnakes during spring emergence. *Herp. Review* 16:75-76.

COYOTES EATING HAWTHORN FRUIT

LAWSON G. SUGDEN, 908 University Drive, Saskatoon, Saskatchewan. S7N 0K1

On 17 November 1986 I observed three coyotes eating the fruits (pomes) of round-leaved hawthorn near Pike Lake, Saskatchewan. It was a clear day with a temperature of -15C; there was 8 cm of snow on the ground. When I first noticed the coyotes at about 75 m distance, the three were watching me. Within a minute, however, they started feeding on clusters of fruit, stretching their necks to reach the lower branches. The tree was about 3 m tall. One soon stopped to watch me again, but the others continued to feed until I left after about 5 minutes. During that time one stood on its hind legs and rested its front paws on a limb to feed on higher clusters.

There was an abundant crop of hawthorn fruit in the vicinity; the red clusters were large and many were within reach of a coyote. Chokecherries also were abundant but most of the fruit was beyond a coyote's reach. Considering the omnivorous nature of their diet, it is not surprising that coyotes should take advantage of such an abundant food. Sperry (1941:62, Food habits of the coyote, U.S. Dept. of Interior, Fish and Wildlife Service, Wildlife Research Bull. 4) found 120 and 440 hawthorn "apples" in two coyote stomachs from Washington and Idaho, respectively. (Altogether, 8,339 stomachs were examined). Observing such feeding behavior is a rare event.

NATURE LIBRARY

BIRDS OF NEW GUINEA

BRUCE M. BEEHLER, THANE K. PRATT and DALE A. ZIMMERMAN; illustrated by Dale A. Zimmerman and James Coe. 1986. Princeton Univ. Press. 293 pp. Cloth $100.00, paper $58.15.

For a number of years I was one of a team of naturalists who worked on a cruise ship. During the idle days at sea we would regale each other with stories of wildlife and exotic lands: islands of seabirds adrift in cobalt seas, tawny savannahs alive with the bawling and clatter of migrating herds, winter landscapes with white bears and white foxes, and verdant forests glutted with life. The stories were often repeated, but the favorite was always the same, the favorite was always New Guinea — a Stone Age land of mysterious forests, undisturbed mountains and birds of paradise.

Birds of paradise are the loveliest of Papuan birds, remarkable for the ostentatious nuptial plumages of the males and their elaborate courtship displays. The males display in groups, each in an individual "court." Females visit the courts, select a male, are courted, mate and then depart. The resultant pressure on the males to be noticed and thus selected, has led to the evolution of elaborate visual effects. Among the 43 different birds of paradise there are spectacular epaulettes, fans, capes and twisted wires, often iridescent or brightly coloured and sometimes accentuated with colourful patches of bare skin.

Birds of New Guinea covers all of the birds of paradise as well as the 682 other species known to occur in the Papuan Region (New Guinea and its numerous satellite islands). The book is principally a guide to identification but as well as describing the birds the authors give information on habits, voice, range, and notes on similar species. I particularly appreciate the information included under similar species as I find it invaluable in a new region when I am just beginning to learn the birds and so many of them look alike.

The authors give an interesting account for each bird family and include details on the bird's behaviour, diet, nest and general adaptations. For example, "(Parrots) appear stocky because of their powerful flight muscles that carry them for long distances while foraging, (they have) very short legs for scrambling about in tree foliage, and larger heads with strongly down-curved and often massive beaks for chewing open seeds and excavating cavities in trees, in which they roost and nest."

Most bird guides begin with a simple description of the geography and climate of the region covered. *Birds of New Guinea* also begins this way, but the reader is given something more, 22 pages of Papuan natural history in which we receive valuable insight into the mechanisms of island life and the diversity and dynamics of the tropical forest.

Artists Zimmerman and Coe do a masterful job with the illustrations. There are 55 plates, of which all but 7 are in colour, and they cover more than 600 species. No birds, however are illustrated in juvenile plumage, but this is understandable since information on plumage development in Papuan birds is not well known.

The last guide to the birds of New Guinea was written by Rand and Gilliard and published in 1967. *Birds of New Guinea* expands on its predecessor with more information and superior illustrations. I own bird guides to 27 different regions of the world and *Birds of New Guinea* is one of my favorites. — Reviewed by *Wayne Lynch*, #304 528 15th Avenue S.W., Calgary, Alberta. T2R 0R2

THE MIGRATIONS OF HAWKS

D.S. HEINTZELMAN. 1986. Indiana University Press, Bloomington and Indianapolis. 369 pp. 5 maps and 17 figures. Hard cover. $35.00 U.S.

The author's stated objective is "to organize and summarize the most important New World hawk migration literature and evaluate . . . our knowledge of these migrations". The book is in four parts. The introduction includes a brief history and various technical aspects of hawk migration and observation. The second and largest part summarizes U.S. and Canadian hawk migration by state and province, with chapters on Central America and the West Indies. The third part relates weather conditions to hawk migrations. Part Four discusses migration routes and the interpretation of count data. The sixty-page bibliography contains about 1700 references.

Heintzelman has certainly gathered a vast amount of scattered information on North American hawk migration. Organization of records by geography rather than species, however, makes it difficult to assimilate information on a particular raptor, even with the excellent index. More liberal use of figures, tables and maps could have avoided some dry, repetitive text, and made the information more digestible. A few hawk portraits — either drawings or black-and-white photographs — would also have made the book more appealing at little extra cost.

Heintzelman refers in the preface to the wonder of hawk migration, but the raptors rarely come to life in the text; animate specks in the sky are reduced to inanimate data points on paper. Science is often thus, but doesn't always have to be. There is a nice account of how raptors adjust their wing profiles to accommodate air currents. More passages of this sort, and more effort to relate migration to other aspects of the raptors' life histories, would have been welcome. Tantalizing snippets about non-migratory insular races of Broad-winged Hawks, for example, could have been combined and expanded.

The author comments that knowledge of hawk migrations in western Canada is very limited. This is certainly true, but some information that is available in Saskatchewan Natural History Society Special Publications, and similar local works, is not used. Publications of this kind are conspicuous by their absence from the otherwise impressive bibliography. Gerrard and Hatch's account of Bald Eagle migration (Blue Jay 41(3):146) includes information on Manitoba and North Dakota, but is cited only for its Saskatchewan content. This is especially unfortunate when only one reference to North Dakota hawk migration is cited. On the other hand, it is gratifying to see mention of the embryonic Manitoba Fall Hawk Watch.

Parts Three and Four are interesting, although sometimes wordy and repetitive. It is sobering to see, at the end, how difficult it is to draw reliable conclusions about population trends from migration data, except for major declines or range extensions. It is also important to note that sex and age distributions, when they can be determined, may be much more useful than species totals alone.

The author's treatment of numbers is a little erratic. Some large numbers should have been rounded off, even if the original authors had not The worst example, 89,585.7 hawks per day at one Texas site, implies an accuracy approaching one hawk in a million! At the other extreme is a South Dakota count of 0.04 hawks per hour . . . one every 25 hours! This certainly evokes sympathy for the observers, but is it really hawk migration? Elsewhere, notation such as "6.8 hawks per hour x 10", rather than 0.68 hawks per hour, is confusing.

If any Prairie hawk-watcher is looking for a research project, Ferruginous Hawk would seem to be a good bird to focus on. This species only receives two brief references. Is there really so little known about its migration, or has it lost out because the geographic organization of the book tends to over-emphasize the more abundant species?

I found a few typographical errors, such as "Stellar's" Sea-Eagle, but not sufficient to detract from the book. The overall quality of layout, printing and binding is very good. One final comment — the title really should include the qualifier "North American." There are an awful lot of migratory hawks on other continents.

In conclusion, this book is a valuable reference work for those who already have a serious interest in raptors, or are interested in initiating their own hawk migration watch. I cannot recommend it, however, if you are a more casual hawk watcher. — Reviewed by *Peter Taylor*, P.O. Box 597, Pinawa, Manitoba. ROE 1L0

BEHAVIOR OF FLEDGLING PEREGRINES

STEVE K. SHERROD. 1983. The Peregrine Fund, Inc., Ft. Collins, Colorado. 202 pp. 23 tables, 59 figures, bibliography, appendix. Illustrations by Karen Allaben-Confer. Paper $10 U.S.

Despite the fact that few species of birds have as well-documented a life history as the Peregrine Falcon, comparatively little is known of the activity of the bird during its fledgling period. With this study, the author — who has worked with the Peregrine Fund at Cornell University's Laboratory of Ornithology and has over 15 years' experience as a falconer — hopes to supply information previously lacking and, incidentally, to add to the store of knowledge of predators in general.

Does he succeed? He does, but not unreservedly. The difficulty of observing such a fast-moving, wide-ranging species meant that some of Sherrod's conclusions were based on "a limited number of observations" and that these "may not be supported by the statistically conclusive data desired by most modern biologists." Also, much of the information in the study is available elsewhere. Yet the book will be valuable to raptor students because in it the author has collected and organized a vast number of disparate observations. Sherrod spent 2400 hours over four years gathering material for this work, which is in one sense a comparative study of the four wild Peregrine broods he observed (two in Greenland, two in Australia) and the three captive-bred broods (all in the eastern United States). These latter three were part of the Peregrine Fund's program to restore the species to areas where it had been extirpated.

The chapters of the book discuss, in turn, the young leaving the nest, their behaviour in flight, the act of killing, food transfers from adults, food solicitation by the young and their aggression toward adults, interspecific aggression by adults and young, and the end of the dependency period. (That this period may, for some birds, continue through at least part of the first migration is one of the interesting conjectures of the author.) The book is strictly organized and scholarly.

The book opens with the young in the nest, which they leave for the first time — ponderously on their huge feet, like a man walking on skis. They make their first flight at the age of about 6 weeks. Sherrod queries the theory that the adult falcons lure their offspring into first flight by dangling food before them, just out of reach. He maintains that the parents merely seek to avoid injury from the talons of their highly aggressive youngsters and thus perform their food-bringing duties from a short distance. (As he points out elsewhere, interpretation is everything, where the behaviour of wild creatures is concerned.)

In his discussion of the ontogeny of the falcons' hunting behaviour, the author states that the birds, genetically programmed to kill, are "capturing" inanimate objects before they are even one week on the wing. They swoop down to grasp a treetop, sometimes succeed in breaking off a branch in their talons, and, after landing with it, administer the killing the neck of its avian prey and pluck its feathers prior to eating.

Many of the fledglings' first pursuits of prey are directed toward inappropriate targets — even deer have been set upon by immature Peregrines — but the falcons soon learn what is suitable and gradually they increase the ardour of the chase. At the moment of their first kill, according to Sherrod, they establish the connection between pursuit and food. The author notes that hacked Peregrines, which receive all the food they want, begin to pursue and kill prey at about the same age as wild birds. Indeed, in his conclusion he states that falcons fledged under human protectors "appear every bit as normal as those which have grown up in a wild family." Among the most interesting aspects of the book are Sherrod's speculations. During a hack-site experiment in which food was withheld from the fledglings, for example, the young searched cracks and crevices for possible caches, even though no food had been cached, and he suggests that that behaviour is instinctive. Moreover, once the birds were again satiated, they engaged in spirited aerial chases of potential prey, in contrast to the low-intensity (and therefore energy-conserving) chases when food was kept back. Hacked birds are independent sooner than wild ones, the author states, because the latter spend much time pursuing their parents and begging for food. Sherrod believes this extreme aggressiveness, which often results in outright attacks on the adults, continues until the young bird has built up a reserve of fat ample enough to see it through the potentially lean period of early independence.

The book, though, is hard to read. Sherrod's style is as dry as the title suggests, and nearly every page contains a sentence that must be read twice, because of some ambiguity or awkwardness, before the message emerges. The drawings are merely functional and the many tables and graphs are easy to read, but some of them are inconsequential, as though the author, desiring scientific credibility, used them merely for the sake of introducing data — any data. One table, for example, documents one of the hacked brood's attempts at capturing insects, but the outcome of most of the attacks is unknown to the author and he admits that not all of the attacks were serious.

Although it is clearly not the purpose of the book to convey the considerable dash and aplomb of the Peregrine, some of this emerges nonetheless: "After statically soaring for 40 consecutive minutes on his first day of flight, an astounding feat, B of the Purr brood flew into the cliff side full force upon his attempted landing. He fell about 1 m to the ledge below, stunned but apparently unharmed."

We should at least hope, with Sherrod, that this superbly gifted species of falcon will, as B did, overcome its difficulties and take to the sky once more with all of its strength restored. — Reviewed by *Bob Kohlmeier*, R.R. 3, Group Box 224, Saskatoon, Saskatchewan. S7K 3J6

WILDLIFE 2000: MODELING HABITAT RELATIONSHIPS OF TERRESTRIAL VERTEBRATES

Edited by JARED VERNER, MICHAEL L. MORRISON and C. JOHN RALPH. 1986. Univ. of Wisconsin Press, Madison, Wisc.

This book is based on presentations at an international symposium on Modelling Habitat relationships of Terrestrial Vertebrates held in October 1984 in California. This book is, however, more than just the proceedings of the symposium. In the editing process some presentations were dropped and new papers solicited in order to "address the development and application of models intended to predict responses of wildlife to changes in their habitats" in a more balanced way.

Models are but a means to an end. They do not reproduce the real world, but they can be a valuable tool to help managers predict the results of their management practices. Nonetheless models can be misleading and, as Jack Ward Thomas pints out in his opening discussion on Chears, Fears, and Introspection, there is a great danger of biologists who do not understand models accepting a model's predictions as gospel.

Habitat 2000 is divided into five sections:

I. Development, Testing and Application of Wildlife Habitat Models
II. Biometric Approaches to Modelling
III. When Habitats Fail as Predictors
IV. Predicting Effects of Habitat Patchiness and Fragmentation
V. Linking Wildlife Models with Models of Vegetation Succession

One of the strengths of this book is the provision of two concluding discussions for each section, one from a researcher's and one from a manager's perspective. Authors of these concluding discussions point out many ways the division between research and application could be narrowed by researchers making models more directly applicable to habitat management.

Many of the 58 individual papers in this book will be of substantial interest and practical benefit to wildlife ecologists. For example section V deals extensively with combining forestry and wildlife management and should have applications in Saskatchewan. After reading Arnie Gotfryd and Roger I. C. Hansel's paper, "Prediction of Bird Community Metrics in Community Woodlots," most urban birders would, I expect, see applications in design of urban parks. The problem of making wildlife attraction a criterion in planning these areas, unfortunately, still remains.

One of the major problems facing wildlife managers today is loss of habitat and fragmentation of remaining areas. The issue of fragmentation has really not yet been addressed in Saskatchewan, although I believe it may be contributing to the disappearance of Burrowing Owls from some areas and undoubtedly affects other species. A series of papers on this topic will thus be useful in Saskatchewan as will single species habitat simulation models on Ruffed Grouse, Sandhill Crane and other species.

Habitat 2000 is an excellent book for the wildlife manager or researcher dealing directly with these topics. Indeed it is hard to conceive that each wildlife agency would not immediately acquire one for the book is heavy technical reading. You are not likely to read *Habitat 2000* for simple pleasure. Hence I do strongly recommend it to the professional wildlife managers working with habitat issues. — Reviewed by *Dale Hjertaas*, 919 Cook Crescent, Regina, Saskatchewan. S4X 2L9

Ruffed Grouse *Ken Lumbis*

LETTERS

THE ELUSIVE CHICKLET

In the top of the dark spruce, away up high.
A wee bird flitted against the sky.
To Make its identity I would try.
It was timid, elusive and shy.

As I approached it moved from tree to tree,
Always a distance ahead of me.
I heard a soft "chip," or maybe a "t-see"?
A kinglet? or Boreal Chickadee?

In the Christmas Bird Count - 'twas a real bind,
To list each bird, and not lag behind.
*Chick*adee ? king*let* ? — to rest my mind,
I called it *CHICKLET*. A rare new find!

— *Donald F. Hooper*, Box 40, Somme, Saskatchewan. S0E 1N0

NEST BOX TRAIL AT GRAYSON, SASKATCHEWAN

The past 10 years since my retirement I have established a bird tail about 170 boxes and adding a few each year. My area includes #2 Highway from Junction #9 Highway West to #47 with some along Highway #47 North to Melville and south to the Qu'Appelle Valley. Also there are some along two roads south of Grayson to the Valley.

Here are the results from the boxes:

Tree Swallows nested in 118 — from 5 - 7 eggs. All fledged except two were found dead in the nest.

House Wrens 18 — all well and healthy.

Mountain Bluebirds 2 — each 5 eggs, 5 young; all left the next in good health.

I have used the idea of paired boxes as described previously in Blue Jay. — *John M. Hicke*, Box 291, Grayson, Saskatchewan. S0A 1E0

OWL EATING HABITS

I have a Great Horned Owl with an injured wing. It eats a pigeon every second day. To my surprise it even eats the keel bone (sternum).

A few years ago, I fed an injured Snowy Owl. It ate a pigeon every third day. When given a pigeon it ate all but the keel bone and large wing and tail feathers. Sometimes the pigeon was not eaten all at once and became frozen, yet next day it had all disappeared. It is amazing how powerful an owl's beak is. — *Sig Jordheim*, R.R. #1, White Bear, Saskatchewan. S0L 3L0

SNHS SUMMER MEET — 16th ANNUAL CNF CONFERENCE

University of Saskatchewan, Saskatoon **4-7 June 1987**

As indicated in the Blue Jay News, January 1987 changes have been made to accommodate the visit of HRH Prince Philip to Saskatchewan, 4 and 5 June. Please take careful note of resulting changes in tours and program.

HRH Prince Philip

FIELD TRIPS

A. Turtle Lake 2-4 June	$175
With your own vehicle	98
B. Blackstrap Park 4 June	28
C. Meewasin Valley Trail 4 & 7 June	free
D. Last Mountain Lake 5 June	28
E. Beechy Grasslands 7 June	38
With your own vehicle	8
F. Louis Riel (Batoche) 7 June	26
With your own vehicle	8
G. Beaver Creek Flora 7 June	15
H. Cypress Hills 8-12 June	295
I. Churchill 8-15 June	725
J. Qu'Appelle Valley Flora 8-10 June	175
K. Pike Lake 8 June	15

CALENDAR OF EVENTS

June 2-4 : Pre-conference field trips
June 4 : Orientation
: Wine and cheese party
June 5 : Last Mountain Lake 100 year celebration
: Annual meeting
June 6 : Symposium
: Banquet
June 7 : Field trips
June 8-15: Post-conference field trips

SYMPOSIUM

Theme of symposium — "A Century of Wildlife Conservation in Saskatchewan." Topics of the speakers include Last Mountain Lake, birds in Saskatchewan, land use, naturalists, Cypress Hills and Grasslands National Park.

AND THERE'S MORE . . .

Early morning nature walks
Blue Jay and Nature Canada bookshops
Accommodation available at University Residences
Nature art show and nature exhibits
Banquet and wine and cheese party

REGISTRATION fee is $25
Sign up early for field trips — space is limited
FOR DETAILED INFORMATION PACKET AND REGISTRATION FORMS write now to: **CNF Conference 1987, Box 5094, Saskatoon, Saskatchewan. S7K 4E4** or telephone **(306) 652-5970** 8 am — 8 pm CST and leave your name and address.

MEMBERSHIP RENEWAL AND GIFT FORM

Name (please print) ....

Address ....

City/Town .... Prov. .... Postal Code ....

Type of Membership(please check)

Regular — Canada ($12) ....[ ]
Junior — Canada ($8) ....[ ]
Sustaining ($25).................[ ]
Patron ($50) ....[ ]
Life ($500).....................[ ]

Regular — outside Canada ($15)...[ ]
Senior Citizen — Canada ($10)....[ ]
An income tax receipt for Sustaining, Patron, Life Memberships and Donations will be sent if you check here ....[ ]

I am a new member for 198________

This is a renewal for 198________

I wish to make a donation to: Conservation Fund $ ____________________ [ ]

Heritage Marshes Fund $ ____________________ [ ]

Other $ ____________________ [ ]

Check above if receipt is required.

* **Life Membership** is payable at one time or over 5 years, or any shorter period agreed.
* Any amount over $10.00 in excess of the regular membership of $12.00 is viewed as a **donation** for income tax purposes and a receipt for the excess amount will be mailed if the appropriate box is checked above.
* **Bulk subscriptions** to schools and clubs is $12.00 for the first subscription and $10.00 for each additional subscription to the same address (minimum of 5 subscriptions).

Please send **Blue Jay Gift Subscription** to:

Name ______________________________

Address ______________________________

City/Town __________ Prov. __________ Postal Code __________

[ ] Check here if you wish us to send a card announcing the gift.

Type of Gift Membership (Please check)

Regular — Canada ($12) ....[ ] Junior — Canada ($8) ....[ ]

Regular — outside Canada ($15) ..[ ] Senior Citizen — Canada ($10) ......[ ]

* Send renewal form to **SNHS Treasurer**
Box 414, Raymore, Saskatchewan S0A 3J0
Make cheques and money orders payable to Saskatchewan Natural History Society
* Do you know of any person interested in natural history and conservation who does not receive the *Blue Jay*? Please send their name and address and we will send a sample *Blue Jay* and an invitation to join our Society.

SASKATCHEWAN NATURAL HISTORY SOCIETY
BOX 414, RAYMORE, SASKATCHEWAN S0A 3J0

BLUE JAY BOOKSHOP
BOX 1121, REGINA, SASKATCHEWAN S4P 3B4

BOARD OF DIRECTORS

OFFICERS

Honorary President	Fred Lahrman	7-3981 Retallack St.,Regina S4S 3C1
President	Dale Hjertaas	919 Cook Cres., Regina S4X 2L9
Past President	Stanley Shadick	3F-1800 Main St., Saskatoon S7H 4B3
First Vice-President	Lorne Rowell	P.O. Box 639, Fort Qu'Appelle S0G 1S0
Second Vice-President	Ray Belanger	412 McGillvary Dr.,Weyburn S4H 1M1
Treasurer	Wayne Harris	Box 414, Raymore S0A 3J0
Corresponding Secretary	Jim Elliott	2256 Rae St., Regina S4T 2E9
Recording Secretary	Kathy Meeres	1125 4th St. E., Saskatoon S7H 1K7

APPOINTED DIRECTORS

Blue Jay Bookshop	Frank Brazier	2657 Cameron St., Regina S4T 2W5
Blue Jay Editor	Sheila Lamont	Box 414, Raymore S0A 3J0
Blue Jay News	Lance Irvine	85-3rd Ave. N., Yorkton S3N 1C2
CNF Representative	Lorne Scott	Box 1052, Indian Head S0G 2K0
Conservation	Bob Ewart	2818 Sinton Ave., Regina S4S 1K3
Finance Chairman	Jim Slimmon	2526 Hanover Ave., Saskatoon S7J 1G1
Grants Committee	Barry Mitschke	Box 450, Lumsden S0G 3C0
Special Publications	Mary Gilliland	902 University Dr., Saskatoon S7N 0K1
Youth	Doug Adams	401-108th St., Saskatoon S7N 1R1

REPRESENTATIVES AT LARGE

Carol Bjorklund	3634 McCallum Ave., Regina S4S 0S5
Phyliss Bordass	R.R. 1, Leross S0A 2C0
Lucille Bradatsch	133 McDougall Cres., Regina S4S 5M6
Ben Cruise	1204 Hochelaga W., Moose Jaw S6H 2J4
Brian Irving	P.O. Box 727, Kelvington S0A 1W0
Ron Jensen	1027 King Cres., Saskatoon S7K 0N9
Lorne Lepp	11 Dogwood Cres., Yorkton S3N 2M6
Ardythe McMaster	306 Brock St., Winnipeg R3N 0Y9
Curtis Pollock	P.O. Box 40, Hyas S0A 1K0
Lloyd Saul	P.O. Box 154, Semans S0A 3S0
Phil Taylor	1714 Prince of Wales, Saskatoon S7K 3E5
Bob Wilson	2742 Broder St., Regina S4N 3T7

PRESIDENTS OF LOCAL SOCIETIES

Fort Qu'Appelle	Ronald Hooper	Box 757 S0G 1S0
Indian Head	Roger T. Gray	Box 1078 S0G 2K0
Melfort	Phil Curry	Box 1115 S0E 1A0
Moose Jaw	Richard Pickering	228 Lansing St. S6H 1N3
Prince Albert	Carman Dodge	219 MacArthur Dr. S6V 5X3
Regina	Kathleen Donauer	11 Mowat Place S4R 3W3
Saskatoon	Jim Slimmon	2526 Hanover Ave. S7J 1G1
Weyburn	Greg Bobbitt	P.O. Box 663, S4H 2K8
Yorkton	Warren Hjertaas	510 Circlebrooke Dr. S3N 2Y3

University of Saskatchewan
Prof. W. A. S. Sarjeant
Dept. of Geological Sciences
SASKATOON, Sask.
EXPIRY DATE 12/31/87 S7N 0W0 R

SASKATCHEWAN NATURAL HISTORY SOCIETY

Second class mail registration number 1046
Please return unclaimed copies.
Return postage guaranteed.

Box 414, Raymore, Saskatchewan
S0A 3J0